

FOUNDED IN 1830

RAILWAY AGE

THE STANDARD RAILROAD WEEKLY FOR ALMOST A CENTURY



APRIL 16, 1951

GREATER *All-weather*
SAFETY
for the trainman...

WITH
THIS
GRIP



★
"Safe-Grip"



LADDERS and HANDHOLDS

THE WINE RAILWAY APPLIANCE CO. TOLEDO 9, OHIO



Symbol of Progressive Leadership

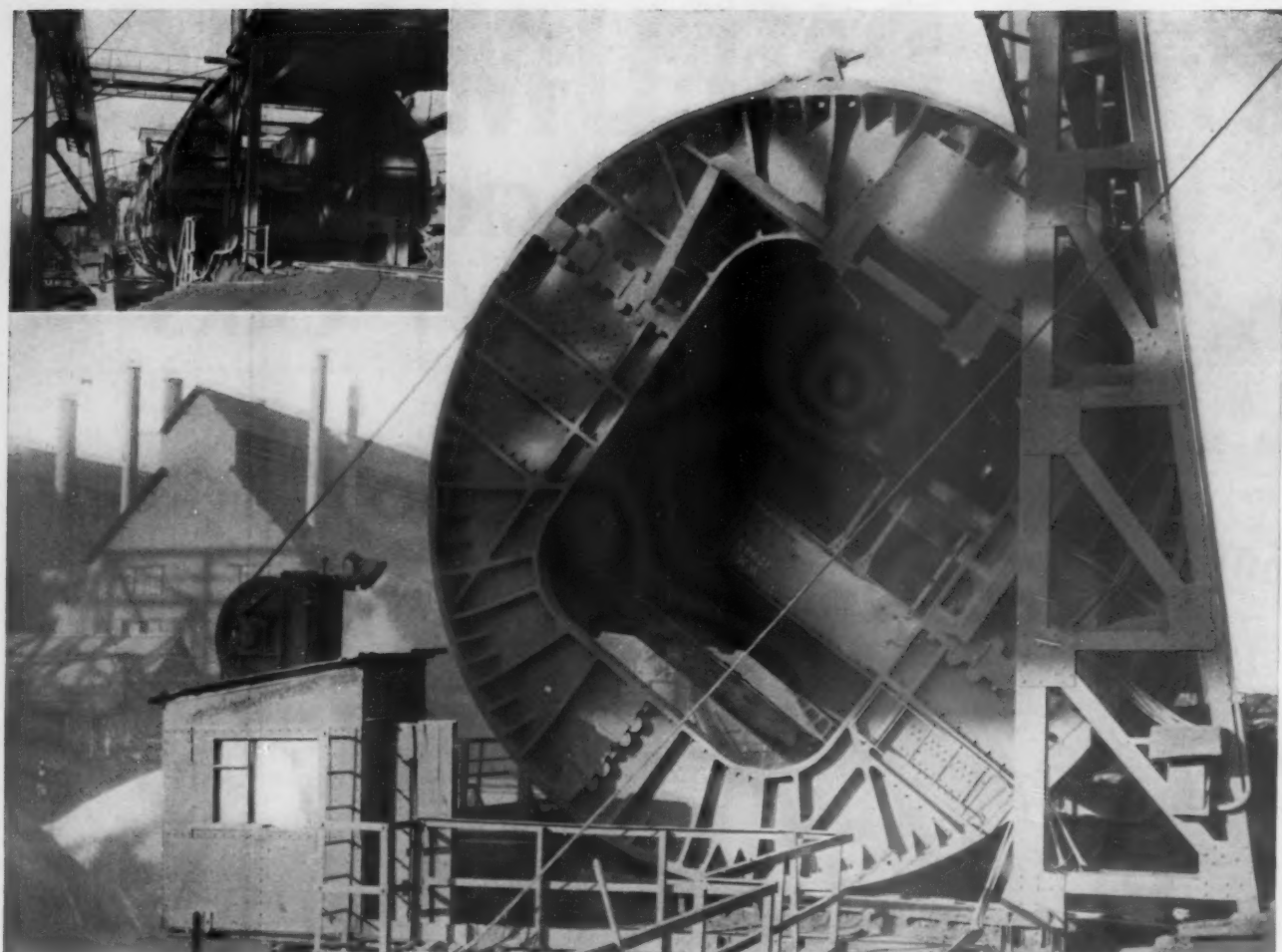
General Steel Castings, identified by this shield on all Commonwealth one-piece cast steel products, has consistently contributed to the advancement in design and operating efficiency of Railroad Locomotives and Cars throughout the world.

Commonwealth products have a long record of proven quality and dependability in all types of service. Their great inherent strength and durability increase the life of equipment and safety of operation, with substantially reduced maintenance costs.

GENERAL STEEL CASTINGS

GRANITE CITY, ILL.

EDDYSTONE, PA.



Dumping 30 Cars per Hour with Car Unloader Built of Mayari R

This barrel-type car unloader handles two standard-gage 90-ton cars at a time. Designed to speed up the handling of ore, stone and coal, it can dump complete two-car loads every four minutes.

Based on experience with other unloaders of similar capacity the builders used Mayari R low-alloy, high-strength steel for the principal members. Mayari R was selected

for two reasons: (1) it has the superior fatigue-resistance needed to withstand the vibration present in machines of this kind, and (2) it has the corrosion-resistance required to combat the effects of industrial atmosphere.

Mayari R has long been used by industry for countless applications where deadweight, corrosion, fatigue, and abrasion are problems.

It is used to advantage in building such things as freight cars, truck trailers, bridges, conveyors, smoke stacks, tanks, penstocks and cargo vessels.

If you are planning to replace or rebuild any kind of industrial equipment, it will pay you to consider the use of this low-alloy, high-strength steel. For further information write to us for Catalog 259.

BETHLEHEM STEEL COMPANY, BETHLEHEM, PA.

On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast Steel Corporation. Export Distributor: Bethlehem Steel Export Corporation



Mayari R *makes it lighter... stronger... longer lasting*

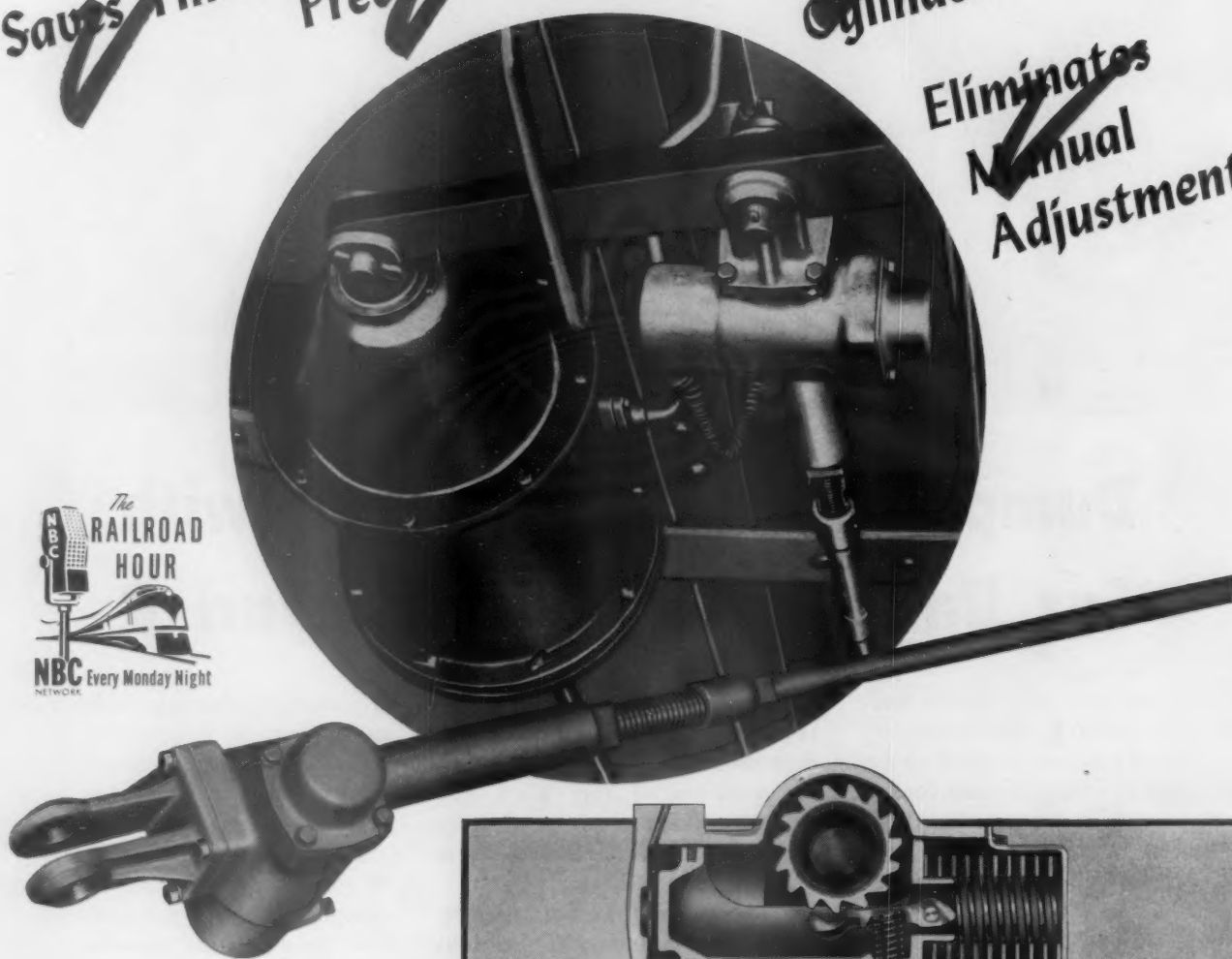
TYPE D PNEUMATIC AUTOMATIC SLACK ADJUSTER FOR FREIGHT CARS

Saves Time

Prevents False "Take-Up"

Conserves Cylinder Force

Eliminates Manual Adjustment



Proven in years of Passenger Service. Ask for Descriptive Leaflet 2468.

If predetermined travel of brake cylinder piston is exceeded, air is admitted to slack adjuster, compressing piston against spring. Upon brake release, spring returns piston, and pawl engages and turns ratchet nut, shortening tie-rod connection.

Westinghouse Air Brake Co.

WILMERDING, PA.

RAILWAY AGE

With which are incorporated the Railway Review, the Railroad Gazette, and the Railway-Age Gazette. Name Registered in U. S. Patent Office and Trade Mark Office in Canada.



Simmons-Boardman Publishing Corporation:
James G. Lyne, President. Samuel O. Dunn,
Chairman Emeritus. J. S. Crane, Vice-President
and Secretary. C. Miles Burpee, Harry H. Mel-
ville, C. W. Merriken, John R. Thompson, H. E.
McCandless, Vice-Presidents. Robert G. Lewis,
Assistant to President. Arthur J. McGinnis, Treas-
urer. Ralph E. Westerman, Assistant Treasurer.

EDITORJames G. Lyne
EDITORIAL CONSULTANTSamuel O. Dunn
MANAGING EDITORC. B. Tavenner
WESTERN EDITORWilliam H. Schmidt, Jr.
NEWS & FINANCIAL EDITORGardner C. Hudson
WASHINGTON OFFICE . . .
Walter J. Taft Joe W. Kizzia
TRAFFIC & TRANSPORTATION DEPARTMENT . . .
Robert G. Lewis John W. Milliken
John S. Gallagher, Jr.
MECHANICAL DEPARTMENT . . .
C. B. Peck E. L. Woodward
H. C. Wilcox C. L. Combes G. J. Weihofen
ELECTRICAL DEPARTMENTAlfred G. Oehler
ENGINEERING DEPARTMENT . . .
M. H. Dick Henry E. Michael
Norris V. Engman Radford E. Dove
PURCHASES & EQUIPMENTFred C. Miles
SIGNALLING & COMMUNICATIONS DEPARTMENT . . .
John H. Dunn Maurice Peacock
WESTERN NEWS DEPARTMENT . . .Arthur M. Cox, Jr.
ASSOCIATE EDITORCharles Layng
LIBRARIANEdith C. Stone
EDITORIAL ASSISTANTElaine C. Farrar

Published weekly by the Simmons-Boardman
Publishing Corporation at Orange, Conn., and
entered as second class matter at Orange, Conn.,
under the act of March 3, 1879. Subscription
price, \$3.00 a year to the railroad industry in
U. S., U. S. possessions and Canada, payable in
advance and postage free. Subscription price to
the railroad industry elsewhere in the Western
Hemisphere, \$10.00 a year; in other countries,
\$15.00 a year.

Editorial and Executive Offices at 30 Church
Street, New York 7, N. Y., and 79 West Monroe
Street, Chicago 3, Ill. Washington 4, D. C.: 1081
National Press Building—Cleveland 13: Terminal
Tower—Portland 5, Ore.: Terminal Sales Build-
ing—Los Angeles 17: 816 West Fifth Street—
San Francisco 4: 1204 Russ Building—Dallas 4:
2909 Maple Avenue.

IN THIS ISSUE

EDITORIAL COMMENT:

Socialization Has Not Improved Labor Relations in Britain	27
The More New Diesels the Better	28

GENERAL ARTICLES:

Adapting RDC to 924-Mile Run	30
How Laboratory Controls Aid Diesel Maintenance	33
The Canadian Pacific Winter-Tests Diesels	37
E. J. & E. Diesellizes Wrecking Crane	38
Cab Signaling System	39
New and Improved Products of the Manufacturers	40
Tie Treatment and Timber Preservation, by Grant B. Shipley	42
January Purchases Total \$347,482,000	45

DEPARTMENTS:

Communication	36
New Book	36
General News	41
Railway Officers	77
Operating Revenues and Expenses	86

Published by SIMMONS-BOARDMAN PUBLISHING CORPORATION, New York 7

Railway Age Railway Mechanical & Electrical Engineer Railway Engineering & Maintenance
Railway Signaling & Communications Car Builders' Cyclopedias Locomotive Cyclopedias
Railway Engineering & Maintenance Cyclopedias American Builder
Marine Engineering & Shipping Review Marine Catalog & Buyers' Directory
Books covering transportation and building

Railway Age is a member of Associated Business Publications (A. B. P.) and Audit Bureau
of Circulation (A. B. C.) and is indexed by the Industrial Arts Index and by the Engineering
Index Service. Printed in U. S. A.

"UNION" I.T.C. For DIESEL ELECTRIC Passenger LOCOMOTIVES

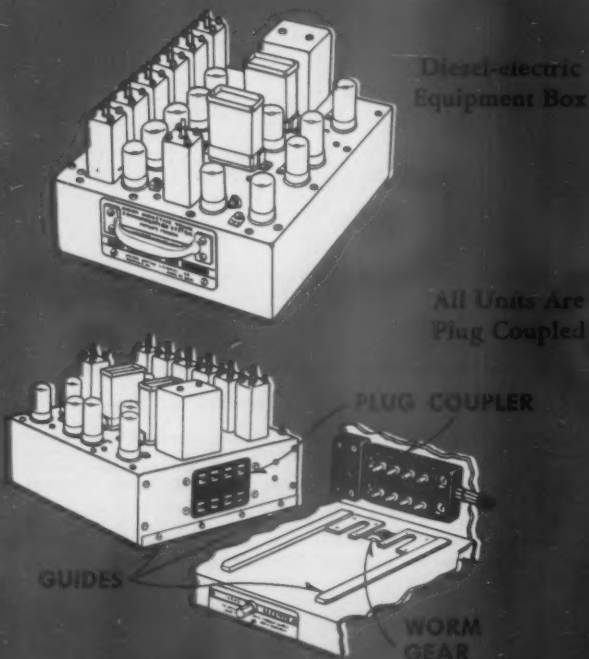


...Gives you these
PLUS Features!

The "Union" I.T.C. equipment box for Diesel-electric passenger locomotives is designed to utilize available space efficiently.

Included are the well-known features of "Union" I.T.C. equipment, such as tray-mounted units, with the trays "floated" on shear-type bonded rubber mountings to absorb the maximum amount of vibration . . . and, coupling of each tray to the system by fixed-position plug-in connectors.

Features such as these not only provide convenience of installation and maintenance, but assure maximum reliability and long life. For full particulars, ask our nearest district office.



UNION SWITCH & SIGNAL COMPANY

SWISSVALE, PENNSYLVANIA

NEW YORK
CHICAGO



ST. LOUIS
SAN FRANCISCO

WEEK AT A GLANCE

DANGEROUS PARALLEL: None of the problems of the British railways has been solved by socialization; union-management relations, at least, have reached what our leading editorial (page 27) calls "an advanced stage of deterioration." If it were possible to look at British railway problems quite academically, viewing them, perhaps, merely as a laboratory experiment in applied economics or sociology, such deterioration might be of little real concern. But, unfortunately, as the editorial also points out, "the parallels which can be found in the railway situation in Britain and that in North America are far too close for comfort." Part of the blame for that dangerous parallel lies, to be sure, with the railroads themselves; their labor policies have been defensive—but not educationally constructive. But plenty of other interests, too, have been equally guilty—and should be equally concerned with improving the situation here.

LOTS OF MONEY: Since about the turn of the century, increasing preservative treatment of railroad ties and other timber has saved the railroads themselves \$6.7 billion—equal to \$129 million per year—or \$353 thousand per day—or \$340 per mile of track per year. In the same period, timber treatment by the railroads has saved the country enough lumber to build 26 million houses. These, and many other equally astronomical and almost unbelievable statistics on the direct and indirect benefits of wood preservation, are brought out, verbally and graphically, in the page 42 article by Grant B. Shipley.

IT COULDN'T BE DONE, BUT—: When the Budd Company introduced its new rail diesel cars it described them as suitable for any type of railroad passenger service except overnight express runs. But the Western Pacific—which apparently doesn't believe everything its officers read—has for seven months been successfully operating two such cars in tri-weekly service over its 924 miles of main line between Oakland, Cal., and Salt Lake City, Utah. The cars did, to be sure, require some modifications, both inside and out, but these changes were comparatively minor, and surely more than paid for by the saving in operating costs as compared with a conventional train. The conditions which led the W.P. to use RDCs, the nature of the modifications made, and some of the results obtained, are all included in the illustrated feature article which starts on page 30.

NEED FOR NEW LOCOMOTIVES: Nobody in his right mind questions, under present conditions, the need for lots of new freight cars—and for continuing allocation of enough materials and enough manpower to build, as rapidly as available facilities will permit, the thousands of new ones for which orders have already been placed. But production of new freight cars necessarily carries with it also an obligation to provide sufficient motive power to move those cars swiftly, efficiently and economically. "Assurance" has already been given of enough basic mate-

rials to build some 300 new locomotives a month through June—but only through June. The importance of a more permanent allocation of materials for new locomotives is discussed in this issue's editorial comment.

CONVERSION JOB: How ingenuity, plus a war-surplus diesel generator set, enabled the E. J. & E. to convert a 34-year-old steam wrecking crane to a diesel-powered unit, at a cost only slightly above that of repairing it in kind, is told in words and pictures on pages 38 and 39.

MAINTENANCE BY LABORATORY CONTROL: Careful checking of diesel lubricating oil through two types of periodic laboratory tests pays off, the Southern has found, by making it possible to spot potential engine trouble before it becomes serious enough to cause extensive damage. Spectrographic analysis alone, for example, has saved at least three crankshafts and one gear train, and located numerous failures of smaller parts, in little more than a year on only a limited number of engines. How the tests are conducted, and some of the results produced, are told in detail in the article which begins on page 33.

TRAINLOAD RATES REJECTED AGAIN: It looks as though the railroads just can't convince the I.C.C. that they should be allowed to pass on to shippers through multiple-car or trainload rates the economies potentially inherent in large-quantity movement of certain commodities. At any rate—as is reported in the news pages—the commission's Division 3 has just rejected a proposal for 500-ton-minimum rates, at from three-fourths to seven-eighths of carload rates, on import lead between Brownsville and St. Louis and Chicago.

NEWS HIGHLIGHTS: March freight car production reaches 7,011 units, over 20 per cent above February deliveries.—Katy plans expanded yard facilities in Dallas area.—Progress reported in gas-turbine locomotive development.—N.Y.C. to build diesel shops at Syracuse and Buffalo.—R. C. Randall, Erie operating vice-president, dies at Cleveland.—C. & O. to extend C.T.C. over entire 155 miles between Cheviot, Ohio, and Peru, Ind.—L.&N. to spend \$1 million on Strawberry yard.—Nine railroads receive accelerated amortization certificates.—Senate committee recommends Rogers' reappointment to I.C.C. despite opposition.—Erie prepares for May 14-15 centennial reenactment of inaugural run.—N.Y.C. lays off several thousand employees.

TERRIFIC BEGINNING: Paced by commitments for new equipment to cost upwards of \$150 million, railroad purchases for January came awfully close to a total of \$350 million, which is equivalent to an annual rate of—believe it or not!—more than *four billion dollars*. See page 45 for monthly summary.



Seven basic design and construction advantages of National C-1 Trucks help you deliver merchandise on time and in good order—for greater good will from your shippers and receivers.

For a smoother, safer ride . . . depend on NATIONAL Lading-Conscious C-1 Trucks—they protect your equipment, your roadbed and the interests of your customers.

NATIONAL

Write for National C-1 Truck Circular No. 5150. The National Malleable and Steel Castings Co., Cleveland 6, Ohio.

- 1 Quick Easy Visual Inspection**—Gives immediate assurance that friction control mechanism is functioning properly, without time delays or cost of handling or removing a single part.
- 2 Friction Mechanism In Side Frame**—Simplifies control of lateral and vertical truck motion.
- 3 Large Wedge Bearing Surfaces**—Wear is minimized because bolster is protected by hardened-steel wear plates.
- 4 Low-Stressed Wedge Springs**—Low-rate wedge springs are cold-wound and shot-peened for extra fatigue resistance.
- 5 Full Box-Section Bolster**—Bolster has maximum strength and rigidity because it is a full box-section from end to end . . . is not recessed or notched for friction control mechanism.
- 6 Spring Deflections**—Springs of $2\frac{1}{2}$, $3\frac{1}{16}$, $3\frac{11}{16}$ or 4-inch deflection can be used.
- 7 Wedge Aligning Lugs**—Four wedge aligning lugs integrally cast in the top of each journal box protect journal bearing lugs against peening and breaking.

NATIONAL MALLEABLE and STEEL

TRUCKS • COUPLERS • YOKES • DRAFT GEARS

CAPY. 100000

L.D. LMT. 121000

W 3-50 L.T. WT. 48000

Lading-Conscious C-1 TRUCKS

reduce damage claims . . .

protect your equipment

CASTINGS COMPANY

JOURNAL BOXES AND LIDS

NATIONAL

Products

FOR TRANSPORTATION
AND INDUSTRY



Est. 1868

A-3000



HOW LONG WILL THE INSULATION LAST?

Streamlite HAIRINSUL Outlasts the Life of the Car!

The installation of Streamlite Hairinsul into new refrigerator cars is a one-time investment, because it outlasts the life of the car, and can be used again and again.

The successful use of all-hair Hairinsul in refrigerator cars for nearly half a century is the best testimony that service conditions never impair its high insulating efficiency.

Some of the major reasons why Streamlite Hairinsul is specified by leading refrigerator car lines are given at the right. Write for complete data.

1 LOW CONDUCTIVITY. Thoroughly washed and sterilized, all-hair heat barrier. Rated conductivity—.25 btu per square foot, per hour, per degree F., per inch thick.

2 LIGHT WEIGHT. Advanced processing methods reduce weight of STREAMLITE HAIRINSUL by 40%.

3 PERMANENT. Does not disintegrate when wet, resists absorption. Will not shake down, is fire-resistant and odorless.

4 EASY TO INSTALL. Blankets may be applied to car wall in one piece, from sill to plate and from one side door to the other. Self-supporting in wall sections between fasteners.

5 COMPLETE RANGE. STREAMLITE HAIRINSUL is available 1/2" to 4" thick, up to 127" wide. Stitched on 5" or 10" centers between two layers of reinforced asphalt laminated paper. Other weights and facings are available.

6 HIGH SALVAGE VALUE. The all-hair content does not deteriorate with age; therefore has high salvage value. No other type of insulation offers a comparable saving.



Streamlite HAIRINSUL

The Standard By Which All Other Refrigerator Car Insulations Are Judged

AMERICAN HAIR & FELT CO.

Dept. H-14, Merchandise Mart, Chicago 54, Ill.

Dependable **BIG MILL QUALITY**



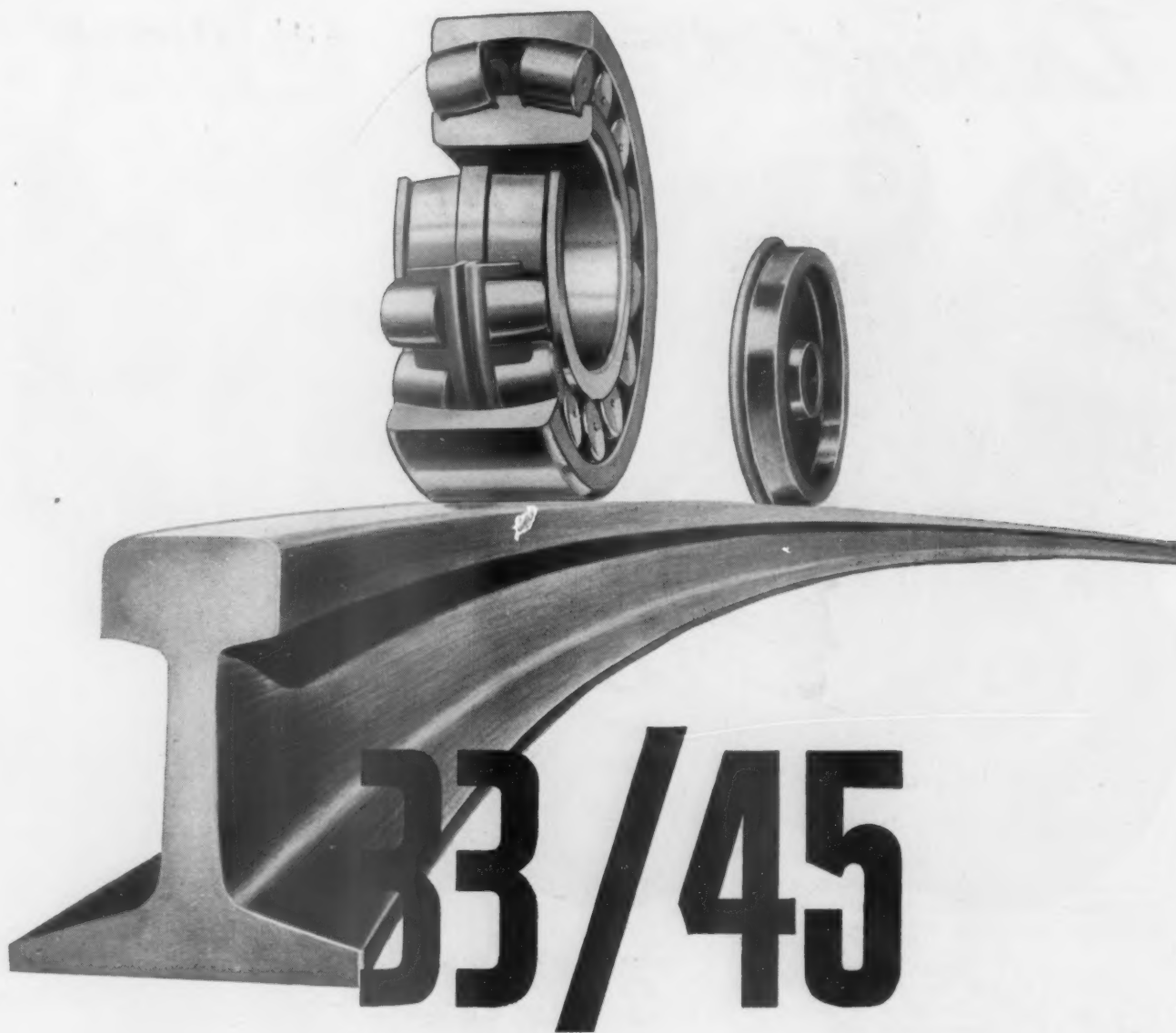
..in Perpetual Supply!
for Railroad and Car Material

- ★ Stringers, Caps & Sills
in Dense Shortleaf Pine
- ★ Switch Ties in Oak and Gum
- ★ Oak Freight Car Stock and
Timbers
- ★ Creosoted and WOLMANIZED*
Treated Timbers

*Reg. U.S. Pat. Off.



CROSSETT LUMBER COMPANY
CROSSETT, ARKANSAS



YES, 33 OUT OF 45
MAJOR* CLASS I RAILROADS
USE **SKF** JOURNAL BOXES

This reliance on **SKF** by an industry whose standards for reliability are so high is typical of **SKF's** acceptance by *all* industry.

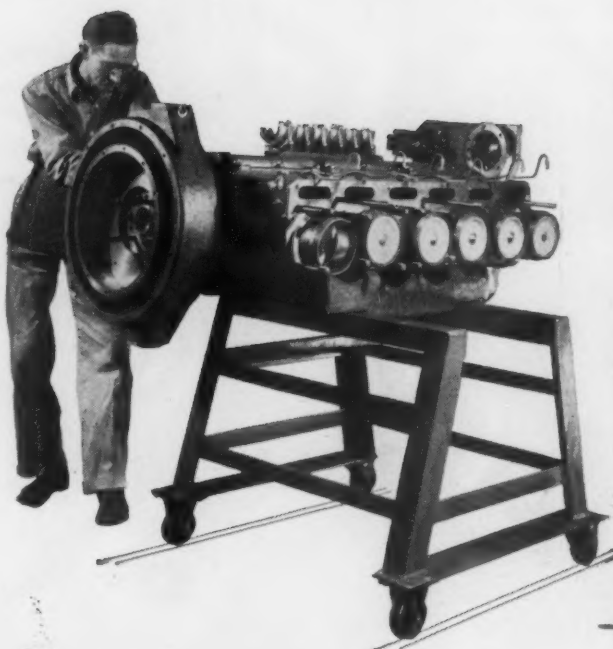
7166

	<p>integrity craftsmanship metallurgy tolerance control surface finish product uniformity engineering service field service</p>	
--	---	--

SKF INDUSTRIES, INC., PHILADELPHIA 32, PENNA.
-manufacturers of **SKF** and HESS-BRIGHT Bearings.

*Annual Revenue Of \$25,000,000 Or More.

Cummins® Custom-built Diesels



*Built
not once
but
Twice*

Best buy in power is the engine that's built best

Cummins Diesels have an outstanding record *and* reputation in a wide range of Diesel applications. And here's one reason!

Rugged, lightweight, high-speed Cummins Diesels perform better because they're built better, under strictest quality control methods. Moreover, each engine is actually built twice! After initial assembly, each engine is run in on the test block. Then it is torn down and carefully re-inspected — and after that it is re-assembled and tested *again*.

Such *extra* care in precision building... Cummins exclusive fuel system... reliable world-wide service and parts organization... enable Cummins users to get peak performance... less "down-time" and *more* rugged, dependable power.

Better contact your Cummins dealer. He has more facts to show you about making more profits.

**Diesel power by
CUMMINS**

TRADEMARK REG. U.S. PAT. OFF.



CUMMINS ENGINE COMPANY, INC. • COLUMBUS, IND.

EXPORT: CUMMINS DIESEL EXPORT CORPORATION
Columbus, Indiana, U. S. A. • Cable: Cumdiex

Lightweight High-speed Diesel Engines (50-550 hp) for:
On-highway trucks • off-highway trucks • buses • tractors • earth-movers • shovels • cranes • industrial locomotives • air compressors
logging yarders and loaders • drilling rigs • centrifugal pumps
generator sets and power units • work boats and pleasure craft.





LUSTER FOR "kitchens on wheels"

There are good reasons for sparkling-clean Armco Stainless Steels in kitchen equipment on many modern trains. These "kitchens on wheels" are designed for top efficiency, low-cost maintenance and long service.

Gleaming Armco Stainless is strong, attractive and rustless. Because it is easy and inexpensive

to clean, it is especially practical for kitchen and bar equipment, window-frames, hardware, trim and accessories. Soap and water, or common cleansers, keep it clean and bright.

Excellent resistance to corro-

sion is another important feature of Armco Stainless. Food and beverage acids cannot stain its smooth, hard surface.

Armco Stainless Steels are produced in sheets, strip, bars, wire and angles.

WANTED: 37 MILLION TONS OF SCRAP!

That's how much iron and steel scrap will be needed by 1952 to keep pace with the industry's production-goal of

117 million tons of finished steel. It means 7 million more tons of scrap than steel mills used in 1950.

ARMCO STEEL CORPORATION

3251 CURTIS ST., MIDDLETOWN, OHIO. PLANTS AND SALES OFFICES FROM COAST TO COAST • EXPORT: THE ARMCO INTERNATIONAL CORPORATION



NATURALLY. *Standard* PRODUCTS
ARE USED BY ALL BUILDERS OF CARS



Improved Dreadnaught End

...because only a specialist
can afford tooling for the best
design in mass production.

Standard

RAILWAY EQUIPMENT MANUFACTURING COMPANY

THE WORLD'S LARGEST FABRICATOR OF RAILWAY CAR SPECIALTIES

310 S. Michigan Avenue, Chicago 4 • 247 Park Avenue, New York 17

RB&W gives you these PLUS Values in nuts for locomotive service

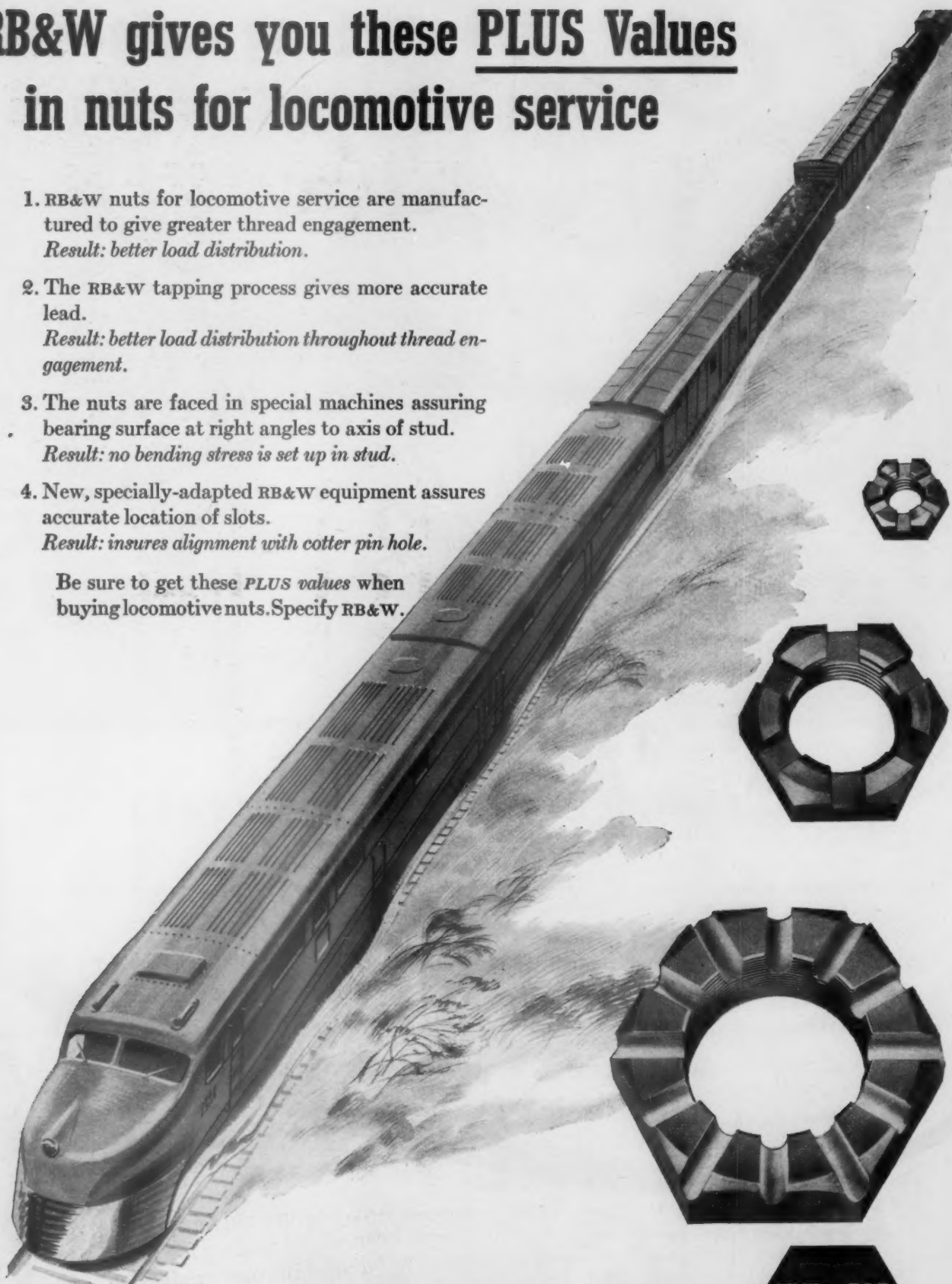
1. RB&W nuts for locomotive service are manufactured to give greater thread engagement.
Result: better load distribution.

2. The RB&W tapping process gives more accurate lead.
Result: better load distribution throughout thread engagement.

3. The nuts are faced in special machines assuring bearing surface at right angles to axis of stud.
Result: no bending stress is set up in stud.

4. New, specially-adapted RB&W equipment assures accurate location of slots.
Result: insures alignment with cotter pin hole.

Be sure to get these *PLUS values* when buying locomotive nuts. Specify RB&W.



RUSSELL, BURDSALL & WARD BOLT AND NUT COMPANY

Plants at: Port Chester, N. Y., Coraopolis, Pa., Rock Falls, Ill., Los Angeles, Calif. Additional sales offices at: Philadelphia, Detroit, Chicago, Chattanooga, Dallas, Oakland. Sales agents at: Portland, Seattle.



106 YEARS MAKING STRONG THE THINGS THAT MAKE AMERICA STRONG



Railroads Are Cutting Maintenance Costs Stopping Destruction by Rust

Rust, major cause of depreciation, is stopped, and life of equipment and structures lengthened when you use RUST-OLEUM.

When you use RUST-OLEUM, durable, reliable protection is assured for rolling stock, metal buildings, bridges, towers, tanks, signal equipment — adding years to the usefulness of any rustable railroad property.

Cut Your Maintenance Cost

Rescue metal that has already started to rust, Rust-Oleum can be applied over metal already rusted — usually without sandblasting or the use of chemical cleaners. Simply scrape and wirebrush to remove rust-scale, blisters, dirt, etc., then apply Rust-Oleum by brush, dip, or spray. It stops the rust, and promptly dries to a firm, pliable protective coating.

RUST-OLEUM is proving itself everyday in ever greater use by railroads. It is the practical answer to many of your rust problems. Buy or specify RUST-OLEUM on all new construction and rolling stock. Use it in your maintenance, repair and rebuilding work.



New catalog just off the press. Write for your copy today!



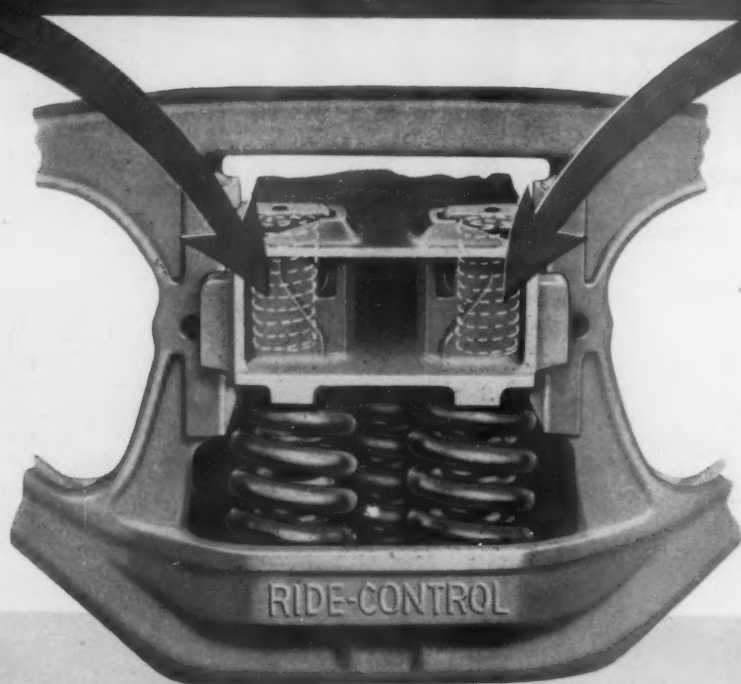
RUST-OLEUM CORPORATION



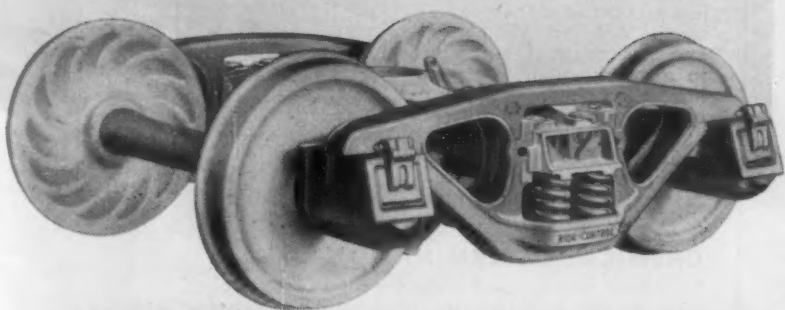
NO SPRING F-L-E-X

means

NO SPRING "SET"



**Friction Springs aren't expected to carry Car Weight
in the Smooth-Riding Ride-Control Truck**



A-S-F Ride-Control® TRUCK

**CONSTANT FRICTION CONTROL
LONG SPRING TRAVEL**

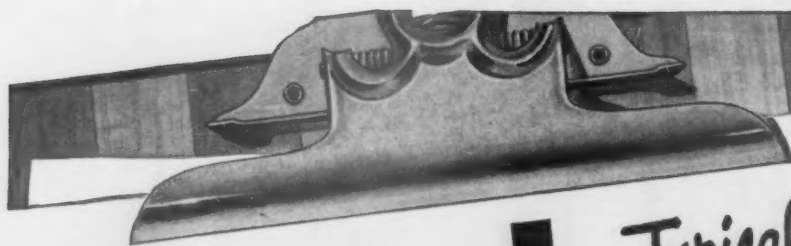
Constant, uniform friction control requires constant, *uniform* pressure. And you get it in A.S.F. Ride-Control Trucks! Friction springs *aren't flexed at all* by up-and-down bolster movement.

These springs don't fatigue or take a permanent "set," because their length remains virtually *fixed*. And, with but a single job to do, they do it *exceedingly* well.

Supporting car weight and controlling spring movement are *independent* functions. That's why the A.S.F. Ride-Control Truck has *separate springs* for each of these purposes.

AMERICAN STEEL FOUNDRIES

MINT MARK OF FINE CAST STEEL

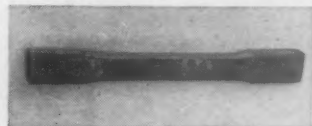


INLAND DATA for STEEL USERS INLAND STEEL CO. 38 S. Dearborn Street, Chicago 3, Illinois

*Typical mill tests
for quality control
of your steels*

An important aspect of steel manufacturing is that, in the great majority of cases, steel is "tailor-made" to meet a specification or to make a particular part. It is therefore necessary for the steelmaker to know as much about each heat of steel as can be efficiently obtained. The tests described below are the main tests run by the steel producer to check the quality of the steel

against the specified requirements. Naturally these tests do not stand alone as the final quality determinants. The steelmaker uses many other tests and his metallurgical experience as well as his knowledge of the steel fabricating processes to assure the customer of the right steel for the job.



BEND TEST

Bend tests are employed to determine the ability of steel to withstand cracking during subsequent forming operations at the customer's plant. Basically, the test consists of bending test pieces through certain specified arcs. (photos 1 and 2). The amount of bending a piece of steel will withstand depends on its chemical composition, its tensile strength, its thickness, and its grain structure.



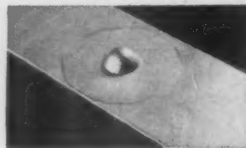
HARDNESS TEST

Abrasion, indentation, wear, cutting and shearing . . . all these are related to the hardness factor of the steel. Hardness tests are most often made after the steel has been heat-treated or just before it is to be temper rolled. Hardness is measured by Rockwell or Brinell testing machines (photo 3) which indent the surface of the specimen with a predetermined load. The

relationship of the load and depth of indentation is then translated into a hardness reading.

CUPPING TEST

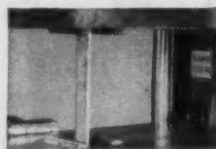
Clues to a steel's suitability for future drawing operations are uncovered by the cupping test. In this test, a sample piece of steel is placed in a special machine in which a smooth metal ball is forced against the flat surface of the specimen thus drawing it into the form of a cup and continuing the



distortion until the material is fractured (photos 4 and 5).

TENSION TEST

In applications where the steel will be under stress, either static or dynamic, the steel mill quality control department is interested in determining certain mechanical properties of the steel . . . tensile strength, yield point and the amount of elongation in a specimen of a certain length. Specimens of the various products are pulled asunder until fractured by hydraulic or mechanical testing machines which accurately measure the applied load (photos 6 and 7).



CHEMICAL DETERMINATION

The most widely used tests for quality control of steel at the mill, are the tests which determine chemical compositions of the raw materials and the finished products. It is estimated that Inland runs 1,250,000 chemical determinations each year. In addition to the wet chemical tests, the spectrographic method (photo 8) is widely employed for making quick, accurate determinations.



"Panama Limited"

ILLINOIS CENTRAL RAILROAD



Diesel locomotives on the pace-setting "Panama Limited" use...

The "Panama Limited"—pride of the Illinois Central—sets a fast pace for modern passenger service. It covers the more than nine hundred miles between Chicago and New Orleans in the short running time of 16½ hours.

Maintaining the fast, on-time service offered by the "Panama Limited" has called for efficient diesel operation. Contributor to that efficiency has been the clean, protective lubrication supplied by STANDARD HD Diesel Oil.

Diesel locomotives on more than 70 railroads are piling up miles of trouble-free operation on STANDARD HD. In all types of diesel locomotives, STANDARD HD is helping to keep maintenance costs low and engines operating at top efficiency. You can be assured of those benefits by using STANDARD HD Diesel Oil in your diesel locomotives. A Standard Oil Railway

STANDARD HD

TRADE MARK

Diesel Oil

Department representative through his extensive experience can help you obtain more effective lubrication. For his services, write: Standard Oil Company (Indiana), 910 South Michigan Avenue, Chicago 80, Illinois.

CONGRATULATIONS TO THE ILLINOIS CENTRAL

Main Line of Mid-America—on 100 years of significant progress.

STANDARD OIL COMPANY (INDIANA)



3000 "Testimonials" from the L&N

When a value-wise buyer like the Louisville & Nashville Railroad surveys the field and then says, "Build us 3000 more of the same" . . . you can draw your own conclusions.

Two years ago, Pullman-Standard built 2000 welded hopper cars for the L & N . . . cars with many new features, well in advance of conventional carbuilding designs at that time.

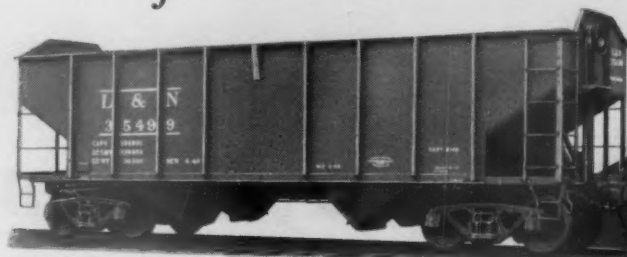
Then came thousands and thousands of miles of grueling road service, *proving* to the

"Old Reliable" L&N the rugged dependability of these cars. And *now* comes an order for 3000 more . . . 3000 "testimonials."

These new cars will be like the previous ones, because the L & N has verified the *soundness* of Pullman-Standard design and welded construction, and the *economy* of Pullman-Standard assembly-line production.

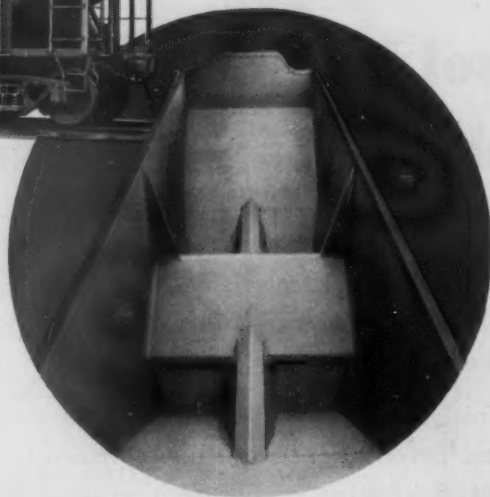
Any railroad that is planning ahead to expand its hopper car fleet can safely order "the same."

WELDED . . . *for greater strength . . . for longer life*
. . . for economical maintenance!



NOTE THESE IMPORTANT FEATURES


1. *Smooth interiors for chute-like dumping action.*
2. *Less dead weight, more pay load.*
3. *Less corrosion, reduced maintenance.*
4. *Balanced design for all-over structural strength.*



Pullman-Standard

CAR MANUFACTURING COMPANY

CHICAGO • NEW YORK • CLEVELAND • WASHINGTON, D. C. • PITTSBURGH
BIRMINGHAM • SAN FRANCISCO



WE'VE CHECKED, WE'VE COMPARED

...AND THE ANSWER IS

*"Build us 3000 more
of the same"*

GREATER HOLDING STRENGTH WHEN YOU NAIL TO N-S-F

Blocking a load to N-S-F means that only the nail is distorted. The floor remains undamaged—lading is secured by steel. Ribbed surface increases floor strength and provides recesses for anti-skid material. Plastic groove-filler operates to seal space when nails are withdrawn.



*...Now Used by
40
Leading Roads*

Every month, more and more freight cars are being equipped with NAILABLE STEEL FLOORING. This growing acceptance of N-S-F by America's leading railroads is due to two major factors:

- N-S-F, made of N-A-X HIGH-TENSILE steel, provides strength and durability for greater operating economy.
- N-S-F and its exclusive nailing feature mean greater security for lading of all kinds.

These characteristics of N-S-F mean greater structural strength for your boxcars... greater efficiency in your overall operation.

GREAT LAKES STEEL CORPORATION

Steel Floor Division • Ecorse, Detroit 29, Michigan

NATIONAL STEEL CORPORATION





Santa Fe Railway Photo

**INSPECTION
REPORT:**

No Replacements Needed!



● Diesel inspections—from top decks to trucks—show that alloy steels have what it takes for long, trouble-free service. Heavy-duty hauling really makes these metals prove their mettle—ask any railroader.

Republic Alloy Steels have played a big part in reducing "down-time"—in keeping trains "on-time." The *uniform* response of these steels to heat-treatment produces a just-right combination of wear-resisting hard surface and tough, fatigue-resisting core. It's an unbeatable combination for such parts as Diesel crankshafts, cylinder liners and wheel bearings.

Connecting rods, pistons and other moving parts

benefit from unique qualities of alloy steels, too. Unsurpassed resistance to impact, stress reversal, and temperature pays off with protection against costly, dangerous breakdowns in high-speed service.

It will pay you now—more than ever before—to make sure that you are using the *right analysis* steel. Republic Metallurgists will gladly assist you in a check-up. Write, phone or wire today for this confidential, cost-free service.

REPUBLIC STEEL CORPORATION

Alloy Steel Division • Massillon, Ohio

GENERAL OFFICES • CLEVELAND 1, OHIO

Export Department: Chrysler Building, New York 17, New York

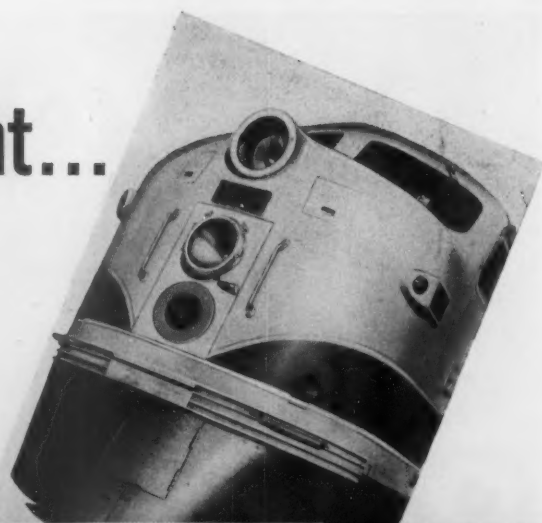
Republic

ALLOY STEELS



Other Republic Products include Stainless, High Strength and Carbon Steels—Sheets—Plates—Pipe—Bolts, Nuts and Rivets—Boiler Tubes

The problems are different...



THE SOLUTION IS THE SAME:

OKONITE-OKOPRENE



Diesel Locomotive Wiring — Passenger Car Wiring — though their demands are mainly different, both are served equally well by Okonite-Okoprene wires and cables. For Okonite-Okoprene is made to stand up in railroad service, to maintain uninterrupted circuits under *all* operating conditions.

For example, much of the 1¼ miles of wire used in diesel electric locomotives is under constant attack from heat, moisture and especially oil. Okonite-Okoprene's durable protective covering will not support combustion... will not deteriorate from moisture... and is virtually unaffected by exposure to the solvent action of petroleum products.

Passenger Car Wiring — a maze of nearly 5 miles of wire per car — is especially susceptible to abrasion and consequent short circuits. Okoprene Protective

Covering is mechanically tough — the most successful neoprene compound for electrical cables ever developed. There are no thin spots to wear through in Okonite-Okoprene car wires, because the exclusive Okonite strip process of applying insulation and sheath assures absolute uniformity of wall thickness.

Reliable, long-lived Okonite-Okoprene is widely specified for cab signal wiring, generator and motor leads, power and control jumpers, lighting systems, and controllers on diesel electric locomotives. In car wiring: circuits for lighting, air conditioning, air circulation, bells, pumps, radio, telephone communication and cooking.

Write today for Bulletin RA-2078 for full details on diesel electric wiring; Bulletin RA-1036C on car wiring. The Okonite Company, Passaic, N. J.



OKONITE



THE BEST CABLE IS YOUR BEST POLICY

insulated wires and cables

9065

SOCIALIZATION HAS NOT IMPROVED LABOR RELATIONS IN BRITAIN

Union-management relations on the socialized British railways have reached an advanced stage of deterioration. Such, anyhow, is a fair conclusion from reports being published in the authoritative London weekly, "The Economist." It is evident that none of the railways' problems have been solved by socialization, which takes on more and more the appearance of a mere device by which an unhealthy situation has been frozen into permanency, with the bill going to the taxpayers.

The three principal British railway unions demanded a wage increase of 7½ per cent. Railway management (the so-called "Railway Executive") insisted that a 5 per cent increase was the most the railways could afford, and a "Court of Inquiry" reached the same conclusion—5 per cent being just about the adjustment needed to keep the upward movement of wages on the railways at the level of increases granted in other leading industries. When, however, the unions threatened a nationwide strike to enforce their demand for 7½ per cent, the government stepped in and gave the unions what they wanted—with a couple of face-saving reservations.

Deficit—or Higher Rates

Thus it is that collective bargaining between management and unions on the British railways has been superseded. The settlement of disputes by an impartial tribunal has also been discarded. Wage-fixing has become a function of the political arm of government;

and the government's decision is controlled—at least to all appearances—by the political power of the unions involved, rather than by the application of any recognizable or acknowledged principles.

"The Economist" estimates that this wage increase—along with higher prices for fuel and materials and increases for shop employees still to be determined—will leave the railways "in the red" about \$84,000,000, after capital charges. In each of the three years since the railways were nationalized, there has been a deficit after charges, but the one now in sight will top them all—that is, of course, unless rates are substantially increased, a move against which there exists considerable political pressure. The temptation is becoming stronger all the time to recognize the railways as a "social service"—to be paid for regularly, in part, by taxation.

This paper derives no satisfaction in the discomfiture of Britain's socialists in this situation—because what is mere embarrassment to them is tragedy for everyone else in the realm. Moreover, it is a tragedy that could all too easily be duplicated on this side of the Atlantic. If there were some way of punishing socializers for their wilful folly without injuring more responsible people, then such punishment could be applauded. But everybody in Britain will suffer from government mismanagement of the railways; and the harm they have done will persist after the socializers have descended into well-merited obloquy or oblivion—which is an observa-

tion which holds true of socializers and their victims on both sides of the Atlantic.

Indeed, the parallels which can be found in the railway situation in Britain and that in North America are far too close for comfort. The differences are in degree rather than in kind. Our Congress shows no more inclination than the British Parliament to deal realistically with the deterioration in labor relations. In this country, collective bargaining was superseded by "adjustment boards" and "emergency boards"; and these, in turn, were displaced by White House intervention. Now a committee of Congress has taken on itself the role of mediation. Issues which should be settled by the principals—and would be settled by them if coercive power had not been taken away from management by legislation and lodged exclusively in the unions—were, first, withdrawn from the principals and put into the hands of an administrative tribunal. The top-level administrative authority then usurped the functions of its own tribunal; and now these functions have, in turn, been further usurped by a legislative committee. Union-management relations on the railroads in the United States have, thus, gone one further step in deterioration than they have in socialist-ridden Britain. And, over here, the alleged "conservatives" in Congress have offended by their irresponsible inaction in adopting corrective measures, just as gravely as have their left-wing opponents.

Time to Wake Up

Railroad managements, political and financial leaders, and officers of the railway unions should awaken to the direction in which railway labor relations in this country are heading. The transportation industry must be kept self-supporting if run-away inflation and national bankruptcy are to be avoided. The railroads cannot be kept self-supporting unless there is some limit placed on union exactions—in wages and in make-work rules. There are only two ways to put an effective limit on these exactions: (1) restore to railway managements the power to combat work stoppages by hiring strike-breakers and discharging strikers without recourse or (2) provide for settlement of union-management disputes by compulsory arbitration, with decisions binding upon both parties.

Cooperation by "capital," labor and management in large-scale industry is effective under a system of freedom only if each of the partners exercises some restraint in its demands on the others. In other words, management must not—even if it should have the power—seek to drive employees beyond the limit of physical endurance, or force them to work for wages insufficient to sustain life. At the same time, both management and labor must see to it that "capital" is rewarded as well in their business as it is in alternative investments. Otherwise, "capital" will withdraw from the partnership and the enterprise will fail—it will fail, that is, as voluntary enterprise—and will have to be taken over by

the government, which has the power to use coercion to enforce cooperation. This is precisely the fate which has hung as a threat over the American railroads for the past two decades, and still overhangs them.

Russian communism derides the assumption that the partners in production—that is, the investors, management, and labor—can be persuaded to cooperate voluntarily to make large industries work under freedom. The communists insist that people will cooperate only under the whip—to which they give the euphemistic name of "dictatorship of the proletariat" (meaning dictatorship exercised by the communist hierarchy). In Britain and America, especially in America, we have asserted, on the contrary, that industry operates more efficiently and produces more when all the parties to production—investors, management, and employees—act entirely without compulsion.

The failure of the railways to be self-sustaining, primarily because one of the necessary partners, i.e., organized labor, insists on completely starving out another equally necessary partner, i.e., the investors, would be a most eloquent means of proclaiming to the world that the communist theory is the correct one. This paper questions whether American railway labor—either leaders or rank-and-file—deliberately wishes to take this position. It doubts that Congress or the American people would tolerate this trend if people who recognize the facts were sufficiently vocal in pointing them out. The railroad industry in this country has done a magnificent job of tactical defense against irresponsible union demands. It has so far done little on the offensive side—that is, toward educating employees and the influential public in what the ingredients of a constructive national policy toward labor relations on the railroads ought to be. Such a constructive policy might just as well be worked out under private ownership and operation, because British experience indicates that nationalization will do nothing toward solving the problem.

THE MORE NEW DIESELS THE BETTER

There is a sure way by which the economic planners in Washington can ensure, for the troubled times ahead, railroads which will have greater capacity than they do today—but with lesser demands on manpower, materials or prime sources of power. That way lies simply in providing enough materials and components to the builders of locomotives to enable them to turn out *new* motive power to the limit of their productive capacity.

It might seem that this fact is too self-evident to require comment. But there exist two influences which tend to becloud the issue. One is the understandable

emphasis on freight cars, where "the heat is on" both the railroads and their regulators. In such an atmosphere, it is easy to forget the essentiality of additional motive power to move additional freight cars. The other influence is the opinion of certain "planners"—already manifested—that the country can be niggardly with the builders of new locomotives, on grounds that the railroads can "make do" with patching up stored power, and stretch obsolete power further by running trains more slowly.

Fortunately, the locomotive builders, in good time, saw the need for education of the planners in the facts of the railroad business, and succeeded in getting what Washington calls "assurance" of enough basic material to build about 300 locomotives a month. But the "assurance" runs only through June. Sometime before the expiration of that period it will be necessary for busy executives of the industry to run down to the Potomac again and gyrate through the convolutions of the great rat-race. Once again they will have to deal with the delusions and indifferences with which they—and the railroads—were threatened earlier in the year. It is to be hoped that a more permanent allocation of materials for new locomotives can be made in the near future.

The immediate value of *new* motive power in the type of economy that lies ahead is clear. For example, greater hauling capacity can increase tons with fewer trains, thereby lessening track occupancy, without slowing up the movement of scarce cars. New locomotives increase manpower efficiency—not only out on the road, but in shops and material yards. New diesels, more particularly, would produce basic savings in the overall economy.

Lest anybody pick the railroads for the role of martyr

in saving the country's oil supply, it ought to be re-emphasized that:

(a) Diesel fuel used by the railroads in 1949 was less than 2 per cent of the total consumption of all petroleum products—fuel oil for home heating was five times greater than the railroads' share;

(b) No other means of transport produces as many ton-miles per unit of fuel oil consumed as a diesel-hauled freight train; and

(c) Oil-burning steam locomotives, in 1949, used 163,000 bbl. of heavy oil, compared with 93,000 bbl. of diesel fuel burned by diesels; total petroleum consumed by the railroads would be less if all their motive power were diesel.

Nothing that has been said here implies that individual railroads ought to quit or slow their current campaign to restore modern steam power to service, wherever potential serviceability scales up well with the expenditure of manpower and material. It is likely that the railroads will need more additional motive power than the builders of new locomotives have the facilities to provide. The New York Central in March placed orders for \$64 million worth of diesel power—one of the largest single purchases in railroad history. At the same time this road is engaged in an intensive program of rehabilitating steam locomotives.

The point is: The diesel builders ought to be allowed the materials to build locomotives to their capacity. The railroads have placed orders up to and exceeding that capacity. Rather than prescribe makeshift and wasteful improvisations, the planners, it is to be hoped, will take the railroads' word for what they need most.

WHO SAYS WE CAN'T AFFORD STANDBY DIESELS?

There is a common notion that diesel locomotives, if they are to be economically feasible, must be kept busy "25 hours out of every 24." While this is a desirable goal, the fact that a railroad property does not always lend itself to so high a rate of utilization is no bar to the expanded ownership of diesel power. That, at least, is what the Belfast & Moosehead Lake thinks about it. Linwood W. Moody, writing in the February 1951 issue of "Waycar," employee publication of the B. & M. L., gives that short line's experience, which is reprinted herewith.—Editor.

"Inconsistencies are on the upswing. Some are absurd—such as political incongruities. Others defy reason. Still more seem to find an immediate level, and work to a common advantage.

"One of these latter is the compatibility of diesel locomotives with the railroads' needs. The big road buys a dozen diesels to replace 30 steam engines. It's understood that the diesel's high cost is justified only when the machine can be kept running 23 hours a day. That's supposed to be a job for two steamers at least.

"So, from this slant the way a big road protects its heavy investment is to load every diesel to its limit, and run it day and night. Otherwise, the carrying charges for

idle machines would be prohibitive because of their tremendous cost.

"The inconsistency in this philosophy occurs in cases like on the Belfast & Moosehead Lake; the small, one- or two-train railroads. Here we have a situation which is at once inconsistent and yet healthily compatible with operating figures. To wit:

"The B. & M. L. bought two diesels four years ago. Two were needed. One to haul the daily mixed train. The other to replace the standby engine which was chewing up a ton of coal a day. The savings in fuel on the road train amounted to about \$19,000 a year. The saving of standby coal, another \$4,000. The combined savings more than paid for the machines.

"However, a further problem appeared. When one diesel was broken down, as one occasionally was, the B. & M. L. was without a relief engine in case another one was suddenly needed. To keep a steamer in reserve would more or less defeat the vaunted economy of diesel power. So, management logically reasoned, why not a third diesel to stand by the standby? Now the B. & M. L., a one-train road, has three diesel-electric locomotives. And by some inconsistent means their savings justify their cost.

"Big roads can't afford to own a single spare diesel. Short lines cannot afford not to. What healthier inconsistency can we ask for than this? What more can be asked of a new innovation than to please everybody, even though a wacky inconsistency chortles 'neath the diesel hoods'?"



Hogan, Nev., is typical of the locations where local rail service is essential for carrying on the company's business and servicing employees

Adapting RDC To 924-Mile Run

Western Pacific uses Budd rail car to replace one of its conventional trains in compulsory, but costly, service

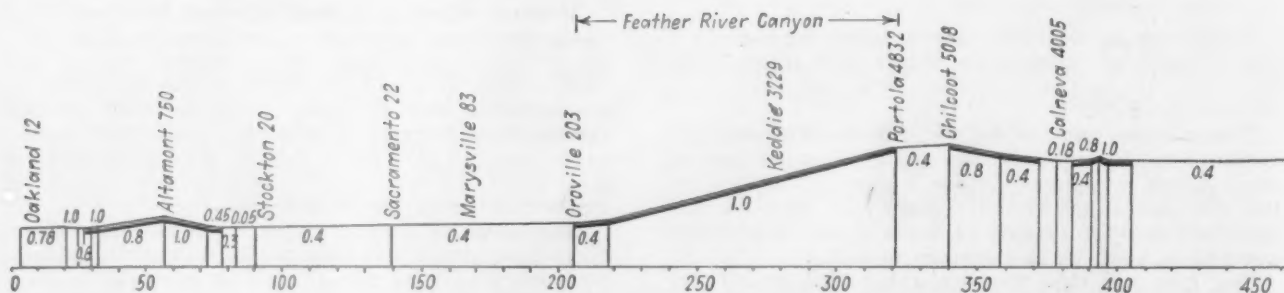
The Budd Company's brochure about its RDC diesel rail car states the view of the manufacturer that it is "suited to every type of railroad passenger run—with the single exception of overnight express service." But the Western Pacific pays no attention to brochures of car builders. Because, since September 15, 1950, it has been operating two Budd RDC-2's successfully as "Zephyrettes" on a 924-mile run—clearly "overnight express service."

Here was the problem to which the RDC-2 was adapted: Over virtually two-thirds of its 924-mile main line, the W.P. serves a thinly populated area. Indeed, at many points across the salt flats, desert and highlands of Utah and Nevada, the railroad's own employees form the major part of the population. At no time since the line was opened in 1909, with or without automobile competition, has there been traffic potential to sustain, successfully and consistently, a daily local passenger train. The successful vista-domed "California Zephyr" was established in the spring of 1949 between Oakland Pier (terminal for San Francisco) and Chicago on a through schedule which precluded the many local stops formerly made on the W.P. by its predecessor, the "Exposition Flyer." To perform local services between Oakland and Salt Lake City, the W.P. tried running a second train, Nos. 1 and 2, with sleeper, diner-lounge, coaches and head-end equipment. Despite strenuous solicitation, the train lost almost \$1 million out-of-pocket the first year. In November 1949 Nos. 1 and 2 were reduced to coaches and head-end cars. But even these measures could not reduce a "hard-core" loss of about \$800,000 a year.

Employees' Needs

It was clear that public patronage would not support a conventional local train. Likewise, the W.P. could not carry on its own business without some means of transportation for employees to and from remote posts in its territory. There are some 20 locations in the Feather River canyon and in the deserts of Nevada and Utah where rail service is the sole dependable year-round means of transport for Western Pacific employees and their families.

The possibility of a bus and truck service for employees was studied thoroughly. By auto, a staff assistant to the president sought to gain access to every siding, section house, or other sites where employees were stationed. At some places no roads of any kind existed; at others they were so primitive as to be impassable for long periods during bad weather. To and from accessible locations, transportation by chartered bus or company truck of essential (but non-revenue) passengers engaged in the normal operation and maintenance of the railroad was estimated to cost about \$165,-



Two RDC-2's furnish a tri-weekly service over 924 miles of the main

Making minor modifications, the Western Pacific has adapted the Budd RDC-2 to long-distance service through territory exhibiting great extremes of climate



000 annually, including \$130,000 for movement of maintenance-of-way laborers to and from job sites.

About the time these difficult factors required resolution, the Budd Company introduced the RDC-1 on demonstrator runs about the country. In January 1950 the W.P. conducted a 10-day test with it in revenue service on the 600-mile portion of the runs of Nos. 1 and 2 between Portola, Cal., and Salt Lake City. As a result, the road ordered the first RDC-2 from Budd. (RDC-2 differs from RDC-1 only in that it contains a 17-foot baggage section and seats 71 instead of 90 passengers.)

Then the road went to work drafting schedules for the new rail car service. The utility commissions of each of the three states through which the line runs had individual ideas as to what hour of the day the car ought to operate through their respective states. In Nevada, for example, Nos. 1 and 2 had provided, quite accidentally, a trans-desert "commutation" service between Gerlach, site of a large gypsum wallboard plant, and Winnemucca, a market center 94 miles distant, which was greatly appreciated by the ladies of the former town. At hearings, Gerlach insisted that this schedule relationship be continued, and, to back its plea, summoned to testify a score of housewives, a large percentage of whom were obviously expectant. Unemotional traffic statistics showed that a daily average of fewer than $\frac{3}{4}$ passenger used this service.

The original plan was to run one car between Stockton and Salt Lake City, 834 miles, on a tri-weekly schedule. It was felt that the remaining 90 miles between Stockton and Oakland was already well served by alternative means of transportation. Furthermore, the Stockton-Salt Lake run was the absolute limit of mileage one car could protect. But the California Public Utilities Commission ruled that the tri-weekly service must run

through to Oakland, making a one-way trip of 924 miles. This necessitated the W.P.'s purchase of a second RDC-2.

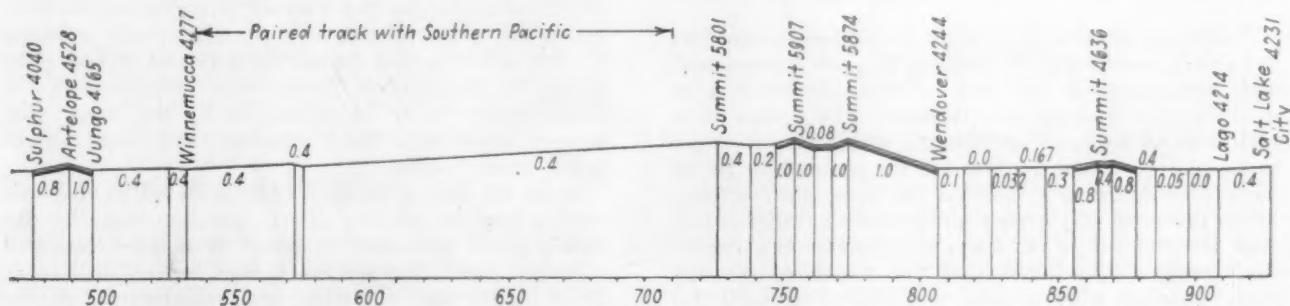
As a result of its extensive tests with the demonstrator RDC-1 and several "shake-down" runs with the RDC-2's which were delivered during the past summer, the W.P.'s Sacramento shops made a number of modifications to the standard RDC-2 to adapt it to the road's service requirements. These changes do not affect the basic design, power or controls, and comprise chiefly added elements of comfort which are not needed in the usual services for which the rail cars are aimed.

Exterior Changes

The most obvious of the exterior modifications to the RDC-2's was the provision of body-mounted, solid-surface steel pilots. Weighing about 500 lb. each, the pilots are hung from the coupler pocket framing with diagonal braces extending from the car center sill to the shear plate on the bottom of each pilot. The surfaces of the pilots are strengthened by ribs welded to the reverse side.

Also added were: (1) *Filters*, installed in the opening at each end of the engine compartments which with the sealing of the side louvers created a dust-tight engine compartment. (2) *Back-up horns* at each end. These will provide warning protection in the event the leading horn becomes plugged with snow or sand. (3) *Oscillating Pyle-National "Gyalights"* mounted on the end doors. One is equipped with a clear lens and serves as a warning headlight. The other has a red lens as a taillight. (4) *Illuminated identification numbers* mounted on the roof.

Other items include: rear-view mirrors, electric markers, electrical trainline for operating the car's electrical services while being hauled as a coach in a train, and



stem. The mountain grades are sustained but not over one per cent



Individual reclining seats in the center section provide long-distance riding comfort

conductor's air-signal communicating equipment. W.P.'s herald and orange "wings" were painted on each end, and the name "Zephyrette" applied to the baggage section dead-light panel.

The lot of the engineman was made easier by the installation of a seat, manufactured by the American Seating Company, identical with those standard on W.P. road diesel power. The seat is mounted on floor sockets and can be used in either cab. In normal operations the car will be run with the baggage compartment forward.

The standard Westinghouse M-23 automatic brake has been supplemented by the application of straight-air brakes using the AX-1 Rotair valve.

The car's communicating system has been expanded by the addition of buzzers in each of the passenger sections and in the baggage compartment, permitting the engineman to signal the train crew at any point throughout the car. Miscellaneous additions include sun visors, stainless steel drinking water cooler, and receptacle for the engineman's watch.

Baggage Compartment Changes

Following consultation with the division superintendent and chief messenger of the Railway Express Agency, and with messengers on line, the following additions were made in the baggage compartment: (1) Independent regulation of baggage-car radiators. It is often desirable to maintain a cooler temperature for perishables in the baggage compartment than in the passenger sections, hence the need for by-pass piping and controls. (2) A rack for iced fish, milk, and other commodities requiring drainage. (3) Letter rack for handling company mail, together with a desk and individual light for executing necessary reports. (4) First-aid kit and rack for stretcher (which are mandatory by state law). (5)

64-volt outlet for a hot plate as a convenience for the express messenger during the long run.

The application of the RDC-2's to their runs across three large western states required several major modifications of the coach interior. Foremost was the construction of a ladies' lavatory in the forward corner of the middle compartment. Budd assisted in the layout and specification of materials. In the opposite corner was installed a Sunroc electric drinking water-cooler model RC-6.

For the long-distance passengers, in the middle compartment, the walk-over seats, standard with the RDC's, were replaced by nine pairs of Karpen individual reclining seats mounted on 36-in. centers. The addition of the lavatory and water cooler reduced the seating capacity of this section from 22 to 18. Since a large proportion of the railcar's traffic is short haul the original seats were left in the larger coach compartment.

A feature of interest is that hot water for each lavatory has been provided for by the installation of individual electric heaters mounted under the wash-bowls. Hot water is produced in a four gallon tank by a rapid-recovery, immersion-type "Chromalox" electric heating element manufactured by the Edwin L. Wiegand Company.

Other items included: (1) *Hat-check clips* mounted on the edge of the baggage racks above the center line of the seats. Original clips on the back of seats were not satisfactory except for short trips. (2) *Conductor's headquarters* located at the jump seat in the larger passenger compartment. A folding desk was mounted on the wall, and the adjacent cove light placed on an individual circuit to provide light when the rest of the car was darkened. (3) *Night lights*. One ceiling fixture, adjacent to the toilet in each passenger section, was placed on a separate circuit and suitably shielded.

As a result of the W.P.'s experience some of these changes have been incorporated in Budd's production models. Included among miscellaneous changes were a master battery switch, additional grab irons in vestibules and photo murals in passenger sections.

Schedules

The "Zephyrettes" (designated by the Western Pacific as numbers 375 and 376) handle the tri-weekly Oakland Pier-Salt Lake City run of 924 miles on a schedule of 22 hours 48 minutes eastbound and 23½ hours westbound, with 19 scheduled and almost 100 potential conditional stops in each direction. This compares with 24 hours and 15 minutes eastbound and 24 hours and 5 minutes westbound on the former diesel-powered conventional local train.

Although the "Zephyrettes" have been in operation only a short time, the RDC-2's have already demonstrated their many advantages. Their quick acceleration and sustained high speed on long grades is especially useful in ascending the Feather River canyon where, except for a few places, a 1 per cent grade stretches for 100 miles. In this district the cars will pickup from a stop to 30 m.p.h. in 30 seconds. Their flexibility is tested further daily in accomplishing the many conditional stops on a faster schedule than their conventional predecessors.

As of the end of October 1950, the road figured that over a long period, the direct operating costs for the RDC's would be about 71 cents a train-mile, compared to almost twice that for the former conventional train. Referring to the operation and maintenance of the cars, one officer was heard to remark: "It's just like having a big Buick around."

How Laboratory Controls Aid Diesel Maintenance

By close scrutiny of diesel lubricating oil through two types of tests, engine troubles are located before they become serious enough to cause extensive damage

Additional experience with the spectrographic analysis of lubricating-oil samples from diesel-electric locomotives made at the University of Chattanooga for the Southern since this article was written has resulted in the road ordering a spectrograph to be installed at the Alexandria, Va., headquarters of the railroad's test department and one of the two locations where conventional analyses of lubricants are now being made.

Many engine troubles are located by the Southern before they become serious enough to require costly repairs. This is accomplished through a program of periodic lubricating-oil sample checking by the test department, one of several functions performed by the laboratory to keep diesel locomotive operating and maintenance costs to a minimum.

Oil samples are taken after each 5,000 miles in freight service, each 10,000 miles in passenger service, at each monthly inspection for switching locomotives, and whenever the oil is changed for any reason. The average cost is \$5.45 per sample in each of the foregoing instances; spectrographic analyses on the same schedule are run at the Industrial Research Institute of the University of Chattanooga at a cost of \$7.50 each.

During an initial 13-month period, using the spectrographic analysis in addition to the regular lubricating oil tests on 30 locomotives for the first three months and 50 thereafter, three crank shafts and one gear train were definitely saved by the spectrograph. The spectrograph was responsible for locating failures of such small parts as wrist-pin bushings, which, while not expensive in themselves, could cause serious contingent damage, in this case a wrecked cylinder or worse.

Perhaps the best proof of the potential value of the spectrograph lies in a crankshaft which did fail. On this occasion the analysis showed a dangerous buildup of metal content in the oil, but due to a 25-day delay in obtaining the results during the initial test period in the use of the spectrograph, the crankshaft failed before the results of the analysis were known.

Periodic Tests on All Units

The periodic samples taken from all diesel locomotives are tested for four principal conditions: viscosity, flash point, and two types of insoluble matter. The test for the first type of insoluble matter shows the amount of dirt present in the sample; the second detects the

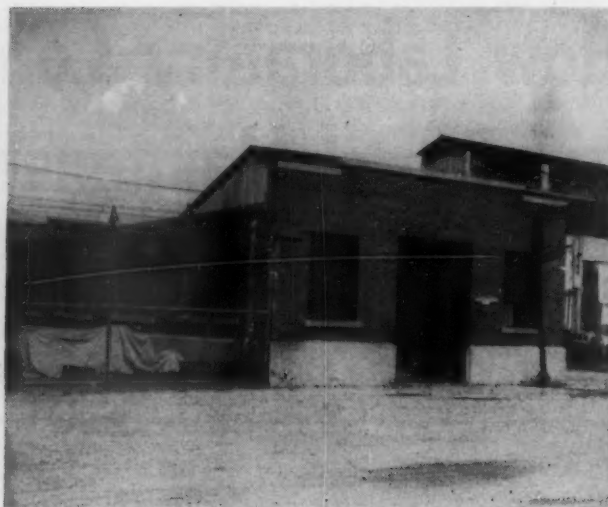


Checking incoming samples of oil and other material to be tested in the laboratory

presence of sludge, gum, varnish and other oxidized materials.

An average of three or four analyses out of each 24 show some trouble in the oil, and consequently in the engine. The analyses also indicate by the viscosity and viscosity-index tests whether different brands of oil have been mixed by mistake.

Examples of engine troubles indicated by the oil tests are leaky seals, shown by water in the oil; inoperative



Above—The laboratory building at Chattanooga, Tenn., one of two points on the Southern where oil samples are analyzed. Left—Viscosity test being run on a sample of lubricating oil, one of four specific tests to determine the suitability of the oil for further use and to indicate possible engine troubles in the early stages. Facing page, left—Because cleanliness is an important factor in efficient diesel operation, samples of cleaning compounds are carefully analyzed. Facing page, right—One of many incidental functions of the test department in diesel operation is the analysis of stack gases

by-pass valves, shown by dirt in the oil and found by a high precipitation number; leaky injectors, causing fuel-oil dilution and shown by a reduction in viscosity; and exhausted additive, which results in an increase in oxidation.

Equipment Is Simple

Detail work in taking the sample is reduced to a minimum. The only equipment required is a standard one-quart screw-top can and a single stationery form, called TD-9.

The top half of this form has 14 spaces to be filled in at the service point where the sample is taken,

giving such information as the sample serial number, the locomotive number, brand and S.A.E. number of the oil, date the sample was taken, date of the previous oil change, mileage or hours and make-up oil added since the previous oil change, whether oil or oil filters were changed when the sample was taken and the reason for the change, types of filters and mileage since the last change, any comments, and the name of the person submitting the sample.

The lower half of the form is divided into two parts by a vertical line down the middle. The right half contains instructions for taking the sample while the left half is reserved for the chemist to fill in information on the technical properties of the oil, such as flash point, viscosity, neutralization number, water, etc.

The service point fills out TD-9 and sends it to Alexandria, Va., if on the eastern lines, or to Chattanooga, Tenn., if on the central or western lines. The service point fills in the top half of the sheet. The test department then fills in the lower left portion and later transcribes this data to a second form, TD-10. Copies of this form are sent to the master mechanic, the general diesel supervisor, the superintendent of motive power, the diesel superintendent, representatives of the oil company, and the locomotive manufacturer's regional service representative. One copy is kept on file at the laboratory.

Records Go Along

If the locomotive is transferred from one region to another, the records are also transferred with the locomotive from one laboratory to the other. If the locomotive is serviced at two or more points, or if the master mechanic and the general foreman of the service point are at different locations, both receive a copy of TD-10.

If difficulty is found with the oil, the master mechanic is required to furnish a report to the diesel superintendent, with copies to the oil laboratory and to the superintendent of motive power, advising what was found and how the difficulty was corrected. Where anything is found

Spectrographic Analysis Results on a Diesel Unit for Four Months, Showing the Build-Up of Metals Content in the Ash in Parts per Million for the Month of July When the Results Prevented a Crankshaft Failure

Month	June	July	Sept.	Oct.
Mileage	1,552	11,292	2,844	8,624
Gallons Added	0	45		
Ash	.25	.28	.30	
Fe	72.00	1,310.00	105.00	238.00
Cu	8.00	50.00	10.30	16.20
Pb	2.45	10.10	2.30	14.00
Sn	.55	15.00	.70	1.75
Ag	.45	1.50	.55	.85
Al	.60	3.82		
Ca	225.00	445.00	140.00	198.00
Ba			400.00	64.50
Sr				47.50
Na				Present
P	235.00		183.50	178.50
Zn		2.00		
Mn	.65	3.60	.85	3.10
Ni	.26	2.15		
Mg	.40	2.80	.10	.45
Cr		4.30		
Mo				Present
Si				



wrong with the oil, the master mechanic is notified immediately by telephone or telegraph. An entry of such a call or wire is made on TD-10. For example, if water is found in the oil, the master mechanic is immediately telephoned or telegraphed to change the oil and search for water leaks.

The diesel superintendent has a board showing all locomotives. Check marks are entered after a locomotive when an oil sample is sent in. The square is colored red when something is found wrong with the oil. If three such red-colored squares appear in a row for any one locomotive or a large number of red squares are found at frequent intervals for the locomotive, an investigation is begun.

A Typical Case History

The value of the two types of lubricating oil tests is well illustrated by the case history of a 1,500-hp. diesel A unit having a 12:65 gear ratio. It was bought in December 1944 and was used in mountain freight service:

Jan. 1945—First oil sample taken.

June 1946—Sample showed oil oxidizing, which would cause corrosion, due to acidity, and thickening, which would deposit gum on moving parts. Oil ordered changed. Engine examined, and oil-cooler core found plugged. This was corrected, and the oil and the filter changed.

Sept. 1946—Oil badly diluted. Master mechanic was wired to change oil and look for fuel leakage. Leaky injector found.

Aug. 1947—Dirt in oil. Oil and body filters changed ahead of time and filter system checked and cleaned.

May 1948—Oil again dirty, above procedure repeated. Water also found in the oil, caused by a leak around the core of the oil cooler.

June 1948—Oil again dirty, usual procedure repeated.

Sept. 1948—Oil diluted, caused by the P-pipes to two injectors leaking.

Dec. 1948—Water in the oil. Master mechanic wired to change the oil, inspect main bearings and look for leaks. Bearings o.k., but liner seals leaked.

Feb. 1949—Oil badly diluted, caused by a hole in the crown of the piston.



Feb. 1949—This unit was selected as one of 50 test locomotives for monthly spectrographic analysis to determine presence of any residual metals in lubricating oil ash.

July 1949—The sample test showed oil to be satisfactory, but the spectrographic analysis indicated high residual metallic content of tin, copper, lead and iron. By telephone the locomotive was ordered removed from service immediately for inspection. The bearings had wiped and the crankshaft was riding on the backs of the bearings and was on the verge of seizing. Engine overhauled and returned to service. Crankshaft failure prevented.

Cleaning Cost Reduced

Another important diesel maintenance function performed by the test department is the investigation of cleaning materials and the development of cleaning methods for diesel power.

Seven principal projects are currently being investigated and put into practice in the major divisions of diesel cleaning.

Ten different detergent cleaners were evaluated for cleaning parts and assemblies in hot baths to remove oil, varnish and carbon deposits. The result of this development was standardization on a cleaner which sold for a much lower price than the one formerly used and did a better job.

A cleaner chemist visits all shops, prepares standard methods adapted to that shop's requirements, and instructs personnel. He determines the contents of each cleaning charge to be used, the amount of make-up cleaning material to be added each day, the life of the cleaning material before draining and the frequency and amount of recharging. All this information is stencilled on the cleaning tank. At present two principal types of hot-bath cleaning are employed, one for steel, cast iron, brass and galvanized parts, the second for aluminum parts.

For cleaning interior painted surfaces on the engine and the locomotive cab, eight materials were tested. The test department standardized on one and developed

proper equipment and methods for cleaning, such as where to use brushes, where sponges, etc.

Two ways were developed for cleaning and oiling car-body filters, hot vats and automatic cleaning machines. Four materials were tested and one standardized. The test department is currently working on the development of an improved type of oil for dipping.

For cleaning diesel locomotive exteriors six types of materials were investigated; methods, concentration and equipment to use were developed for each.

For cleaning the locomotive running gear, it was learned that an alkali cleaner was required to remove the combination of oil and dirt which had to be emulsified, while an acid cleaner was required to dissolve the deposit of rust from the brake shoes and red clay. The department developed a system of spraying with acid cleaner and washing off with an alkaline type. The spraying nozzles used for this work were also developed by the test department.

To clean and spray top decks and air-box passages, three types of solvents were experimented with. Spraying equipment was developed which not only does a better cleaning job but reduces the fire hazard and the toxicity to the operator.

Materials and methods for cleaning electrical equipment are currently under investigation.

By applying such techniques expenditures for cleaning have been held about constant despite annual increases in the use of diesel power.

Corrosion Protection

Various types of corrosion inhibitors were also tested, and an alkaline-sodium-chromate treatment was standardized. The concentration is controlled by calibrated conductivity meters installed in each shop, serviced and maintained by the system water chemist. Water on the locomotives is tested each time the locomotive is in the house; the conductivity meters are tested every six months.

Despite the fact that large quantities of the inhibitor are used, the product is purchased in 20-oz. packages, which is the amount required for each 50 gallons of cooling water. While the cost per unit of the inhibitor is considerably increased by using 20-oz. packages rather than purchasing it in bulk, it was felt that the use of small packages would be cheaper in the long run. Greater accuracy is attained and waste is considerably reduced because people handling things in small packages tend to be more careful in avoiding spillage than with materials which come in bulk.

The test department also conducted extensive experiments with the use of antifreeze on 25 switching and road-switching locomotives which lay over 8 to 16 hours between working shifts. Two principal problems were encountered. One was the selection of an antifreeze which had a sufficiently high boiling point, particularly for withstanding local over-heating, without decomposing. A second was to prevent corrosion as the alkaline-sodium-chromate corrosion inhibitor was not compatible with the rust inhibitor in commercial antifreezes. An ethylene-glycol type antifreeze was selected after assurance by manufacturer that the organic corrosion inhibitor would be satisfactory.

Weekly samples were taken from each of the 25 test locomotives to test the effective corrosion inhibitor left by measuring the reserve alkalinity; to test for iron content in solution or suspension which would indicate corrosion of various parts; and to test the freezing point of the solution as a measure of leakage of the antifreeze.

The cylinder liner assemblies in the engine crank-

Communication . . .

How to Prevent Strikes

CHARLOTTE, N. C.

TO THE EDITOR:

Your defense of the trainmen in your February 26 issue against Pegler's abuse was timely; these men are not criminals, but as a rule, intelligent and loyal to their employers, particularly in the Southeast, where they were drawn mostly from farms along the railroads, generally from homes of the middle class. They are misled by high-salaried union officials.

The threat of the loss of "seniority" from the Administration would hardly hold. These men are working under agreements, which carry at least the implication that they must be given an impartial trial before they can be dismissed from the service. If and when the railroads are turned back to their owners, any men out of the service by reason of the "mass" discharge would have a right to demand of the railroads a hearing and reinstatement to the service; the mass dismissal would serve only as a "suspension" with loss of pay.

W. M. COWHIC

[This paper has suggested, simply, that the Railway Labor Act be amended to provide — if railroad employees go on strike in violation of the provisions of that act, or in refusal to accept an award of an "emergency" board — that the protection of all pro-union federal laws be withdrawn from such strikers. Striking under such conditions would hazard "seniority," and experience indicates that strikes practically never occur when "seniority" is endangered.—EDITOR]

New Book . . .

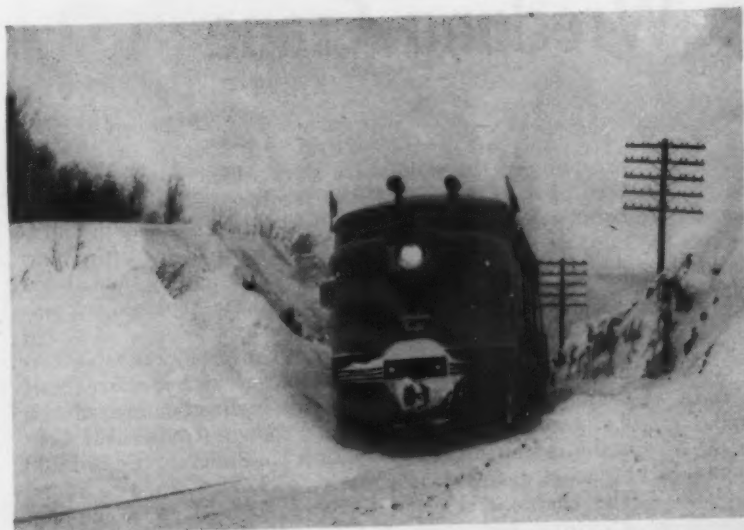
MARKS' MECHANICAL ENGINEERS' HANDBOOK.—Revised fifth edition. Edited by Lionel S. Marks. Over 2,200 pages, 6¼ in. by 9¼ in. Bound in Fabrikoid. Published by John Wiley & Sons, Inc., 440 Fourth avenue, New York 16. Price, \$15.

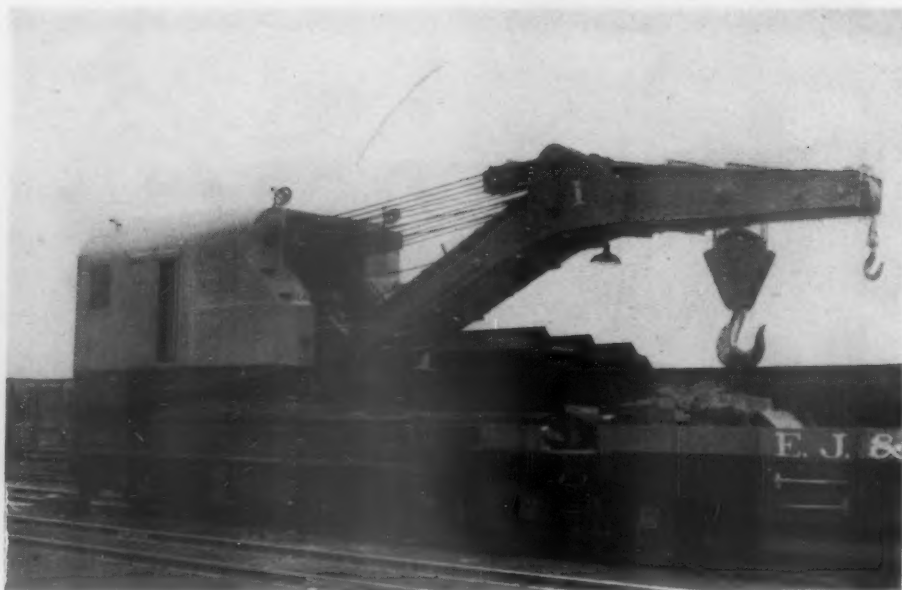
The index to this fifth edition of Marks' Mechanical Engineers' Handbook has more than 12,000 entries covering theory, standards, and practices in every branch of mechanical engineering — from aeronautics to mechanical refrigeration; from power generation to welding; from metal-cutting machines to hoisting and conveying. Among the new or greatly revised items are: *Theory*—fluid mechanics, elastic and plastic deformation of materials, stresses in turbine disks, transonic and supersonic aerodynamics, aircraft jet propulsion, rockets, radar, television; *Processes*—radiant or panel heating, solar heating, heating by heat pumps, vapor-compression distillation, high-vacuum pumps, modern casting methods, dust explosions, industrial supersonics, machining of plastics, automatic process control, statistical quality control; *Materials*—ferrous and non-ferrous alloys, superalloys for highest temperatures, plastics, elastomers, silicones, adhesives, fibers, explosives, rocket fuels, reflective heat insulation, powder metallurgy; *Power*—gas turbines, atomic power. Many new names appear in the list of over 100 contributors who are specialists in engineering and science. The arrangement of the 16 sections is essentially the same as in the preceding edition. The new and revised material is included in the appropriate parts of the book.

cases were visually inspected monthly to see if any corrosion were occurring. All 25 locomotives went through an entire season without corrosion difficulties, indicating that diesel locomotives can be protected by antifreeze.

**On Lake Superior's
North Shore, Where
Conditions Are Rugged**

The Canadian Pacific Winter-Tests Diesels





Left—Diesel-electric wrecking crane converted from steam crane with a war-surplus diesel generator set at a cost only slightly greater than repairing in kind

Facing page—The 34-year old steam wrecking crane before it was repaired and converted to diesel-electric drive

E. J. & E. Dieselizes Wrecking Crane

By purchasing a war surplus diesel-generator set, the Elgin, Joliet & Eastern has been able to convert a 34-year-old steam wrecking crane to diesel-electric drive at a cost only slightly above that of repairing it in kind because of the age and condition of the crane. The boiler and the steam drive were in need of complete replacement, and the frame was badly eaten away in spots, particularly under the firebox where ashes had caused considerable corrosion.

The framework was repaired with new members and modified where necessary to suit the new drive installation. All existing hoist machinery was reused, with the

exception of the main drive shaft which was replaced in kind. Braces were added as required, using all-welded construction. Concave areas, which had worn in the turntable at the quarter points where most of the lifting was done, were built up with stellite welding and hand ground. The old arch-bar trucks were replaced by new trucks with 6½-in. by 11-in. journals.

Power for the repaired and converted crane is furnished by an eight-cylinder four-cycle Superior diesel engine developing 152 b.hp. This is direct-connected to a d.c. generator made by Delco Products Division of General Motors Corporation with a continuous rating of 100 kw., and an overload capacity of 125 kw. for two hours. The engine and generator are mounted on a common structural-steel base, and have a combined weight of 10,300 lb. ready to run. Cooling was originally by heat exchanger, as the set was designed for marine use, but radiator cooling has been substituted.

The hoisting mechanism is driven by two 50-hp. electric motors through double-reduction gearing. The electric panel for the drive motors includes dynamic-braking controls to aid in controlling the lowering of loads. When slow lowering is desired, the operator pushes a button which releases the magnetic brakes and energizes the dynamic braking arrangement, thereby controlling the speed of the motors by the dynamic-brake action only. With the dynamic brake in control, the movement of the hook is slowed to the point where the locomotive being lowered can be stopped easily within 1/32 in.

Capacities of the crane are 100 tons with the outriggers, 80 tons at a 20-ft. radius, 100 tons at a 17-ft. radius, 15 tons with the auxiliary line and 30 tons with the block. The original weight of the steam crane was 111 tons, and this was changed but slightly by the conversion to diesel-electric. Length over end sills is 26 ft.; overall length 45 ft. 5½ in.; overall height 16 ft. 1 in. Supplies carried are 100 gal. water and 170 gal. fuel oil; the normal fuel consumption is 2½ gal. per hr.



The crane was stripped to repair it and to modify it where necessary to accommodate the diesel-electric drive. The hoist machinery was reused with the exception of the main drive shaft which was replaced in kind



CAB SIGNALING SYSTEM

The General Railway Signal Company has developed a new multiple-aspect cab signal system which may be used with d.c., half-wave rectified a.c., and a.c. coded track circuits. Where a.c. coded track circuits are used, standard 60-cycle a.c. may be employed as the energy source; it is not necessary to supply special frequencies, such as 100-cycle, required in some previous systems. The same locomotive equipment serves for all applications, and requires no switching or adjustment when changing from one type of coded track energy to another.

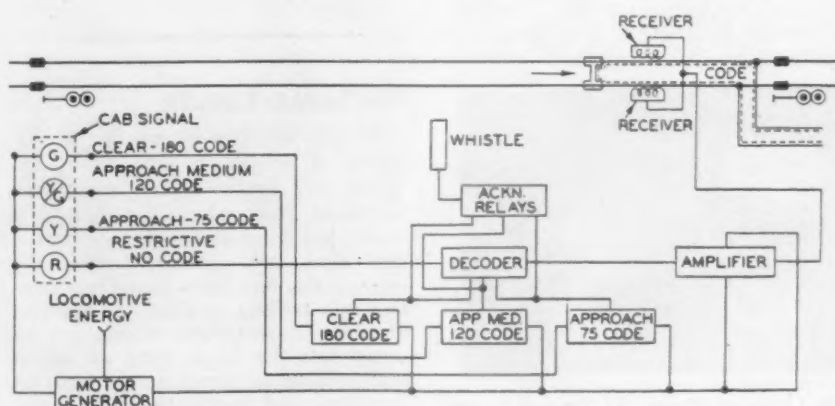
The new system is said by the manufacturer to provide all the benefits of earlier cab signaling systems, plus these extra advantages: (1) Locomotives can operate with full cab-signal protection over routes in which both a.c. and d.c. coded track circuits occur. Since no switching of locomotive equipment is required, it is not necessary for the engineman to know the type of coded track circuit energy employed in different portions of the route. (2) Locomotives equipped with cab signals may be placed in operating pools without having to distinguish among them on the basis of the track energy they are designed to work with. (3) Railroads already using d.c. coded track circuits to control wayside signals can now utilize the same coding to control cab signals. (4) By using coded d.c. track circuits fed by battery, cab signaling can be extended to areas where a.c. energy is not readily obtainable. (5) Commercial 60-cycle a.c. sources may be used to supply coded track circuit energy. The new locomotive equipment detects and responds to code pulses of 60-cycle energy when

foreign 60-cycle current of even greater magnitude than the code current is flowing in the rails.

The wayside circuits used with the new cab signal system may be varied to meet requirements. In general, they are arranged so that each track circuit is fed with the code associated with a particular block condition. These codes are pulses of track circuit energy, usually repeated (for four-indication signaling) 180, 120, and 75 times a minute, with the 180-rate corresponding to the "clear" (green) aspect, the 120-rate to "approach medium" (yellow/green), and the 75-rate to "approach" (yellow). Absence of code, caused by a train shunt in the same block, or loss of code for any reason, produces the "stop" (red) aspect. Arrangements of this kind are well established.

The organization of the locomotive equipment for a four-aspect system is shown in the illustration. The two receivers in the upper part of the diagram are coils carried on the locomotive,

in front of the leading wheels, about 6 in. above the rail. When code currents flow in the rails, voltage pulses appear in these receivers as a result of magnetic induction. This is true not only for a.c. codes, but also for d.c. codes, since the on-off nature of the d.c. code currents produces the changing flux conditions necessary to cause induced voltages. The receiver pulses, which are of various magnitudes, frequency, and wave form, depending upon the type of code currents producing them, are then fed to the amplifier. The amplifier is a new electronic device which accepts all these diverse input pulses, and produces from them amplified output pulses of uniform type at a rate determined by the track code. The output pulses from the amplifier are fed to the decoder, which, decodes the incoming pulses—i.e., determines the code-rate which is being received—and actuates the appropriate signal control relays to produce the proper aspect on the cab signal.

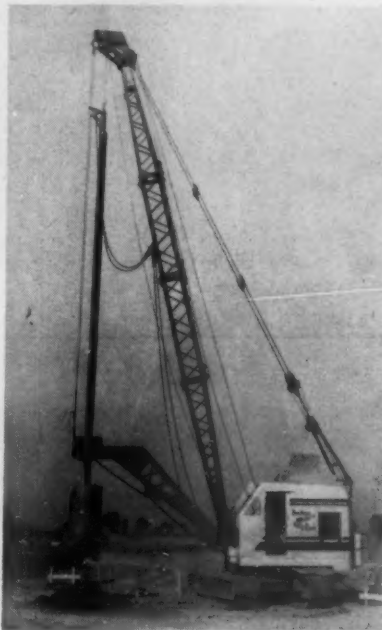


New and Improved PRODUCTS OF THE MANUFACTURERS

FOUNDATION BORER

The Findlay Division, Gar Wood Industries, Inc., Findlay, Ohio, has added a new unit known as the Foundation Borer to its line of ditchers, shovels, spreaders and graders. This unit consists of a crawler crane, of 10 tons rated capacity, equipped with a boring boom and bucket attachment said to be capable of boring holes to a vertical depth of 25 ft. at approximately one foot a minute, depending on soil conditions. In addition to its employment on foundation and caisson work, it also is applicable to boring holes for sand piles, in connection with roadbed stabilization, and soil sampling.

The machine is powered by an 8-cylinder industrial engine of 83 hp. at 1,800 r.p.m. The bucket speed is variable up to 20 r.p.m. in a forward direction and 40 r.p.m. in a reverse direction under throttle control at full governed engine speed. Buckets are available in four diameters—35 in., 37 in., 42 in. and 47 in. Both the 35-in. and the 42-in. buckets may be rendered more useful by a bellows device for bellowsing out holes up to 78 in. and 90 in., respectively.



The Foundation Borer of Gar Wood Industries will bore holes in sand, clay, muck, gravel or hard pan

CONTINUOUS VISION LENSES

Eyeglasses fitted with a relatively new type of optical lens called Continuous Vision lenses are said to be helping to make middle-age workers in many industries, particularly railroad and shipping personnel, more effective and productive. These new lenses go bifocals one seeing-range better by eliminating blurred vision at the im-

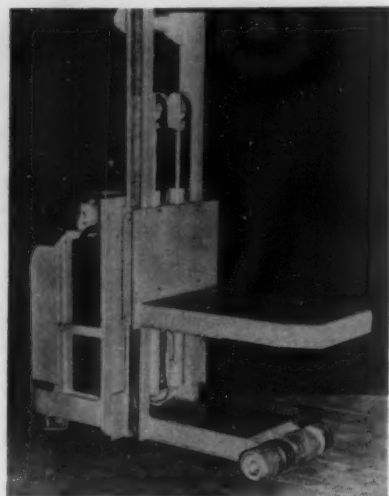
portant arm's-length seeing range, from about 18 to 50 inches from the eyes.

The lenses have three segments which enable the wearer to see near and far and, in addition, are reported to restore clear, effective sight at arm's-length distances.

The Univis Lens Company, Dayton, Ohio, is the principal maker of the new lenses.

ADDITION TO SPACEMAKER LINE OF LIFT TRUCKS

A 4,000 lb. capacity platform lift truck recently was added to its line of materials handling equipment by the Lyon-Raymond Corporation, Greene, N. Y. This new unit in the manufacturer's line of "Spacemaker" lift trucks is available with a standard 24-in. wide platform, with lengths ranging from 30 in. to 48 in. With the standard 83-in. mast, 58 in. of elevation can be furnished. Four wheels with heavy-duty rubber tires support the load. The tractor is equipped with a 10-in. drive



wheel and two 7-in. stabilizing wheels mounted on a spring-suspended swivel caster. These wheels also have rubber tires.

The construction of the truck is said to allow right angle stacking from aisles which are only 24 in. wider than the load length.



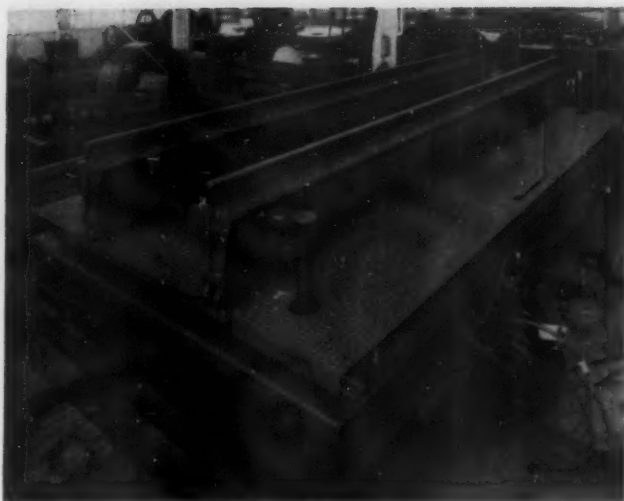
The Littleford Model 157 Train-O-Roller

PORTABLE ROLLER

For use wherever compaction of materials is needed, a new roller, the Model 157 Trail-O-Roller, which can be towed from job to job behind a truck, has been announced by Littleford Bros., Inc., Cincinnati, Ohio. To convert the unit from a rolling position to a trailing position, the spindles of two pneumatic-tired wheels are inserted into the frame, then an adjustable tongue is placed at the front of the frame, and finally the load is trans-

ferred from the rollers to the trailer wheels by a hydraulic lift. It is reported that one man can make the change in less than 5 min.

When engaged in rolling work the machine is self-propelled by an air-cooled Wisconsin engine. The main roll is 36 in. in diameter by 34 in. wide. The front roll is of the split type and is 24 in. in diameter by 32 in. wide. Both rolls, as well as a tank in the hood of the machine, can be filled with ballast to give additional weight.



A Whiting Consolidated drop table being built for the Illinois Central with nested detachable top in place



Table for Illinois Central shop in elevated position, without the detachable top

NEW WHITING DROP TABLE

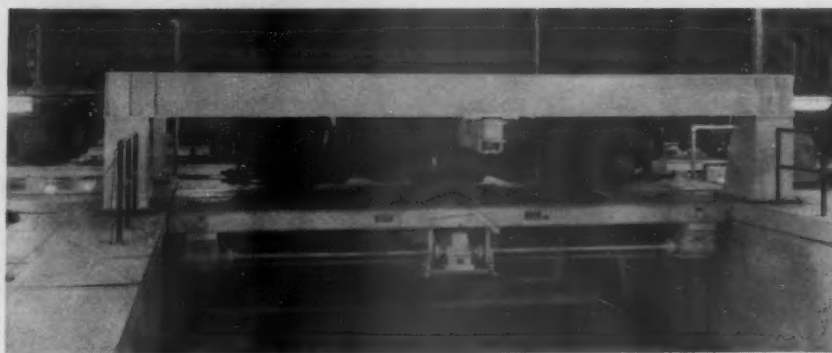
The Illinois Central is now installing at its new diesel shop at Harahan, La., a Whiting Consolidated drop table which has a number of unusual features in design. The normal width of this type of drop table, operating in a shallow, open pit, is 15 ft., to give good working space for men on both sides of the locomotive. Such an installation at the Danville, Ill., diesel shop of the C. & E. I. is shown in one of the illustrations and usually recommended if the drop table is to go into a shop having floors flush with the tracks.

At Harahan, however, it was desirable to have the drop table in the running repair portion of the shop where the floor is depressed 2 ft. 6 in. below the top of the rail and deck level platforms are installed. An open pit would obstruct passage beside a locomotive along the depressed floor level and consequently the novel arrangement was worked out.

A detachable table top, which spans the drop pit at the depressed floor level and carries rails across the pit at active track level, is supported in its upper position by the usual locking bars in abutment pockets. The top fits snugly on the Consolidated drop table and is made with four circular holes large enough to permit passage of the lifting screws when both the drop table and table top are in the lowered positions. The vertical projecting hand lever shown in one of the illustrations is used for operating locking bars at both ends of both rails simultaneously.

The top width of the table is 11 ft. 8 in. which permits installation of a post-type body support at the left end of the pit and a girder-type body support on the other side of the track.

The drop table itself is equipped with four wheels and operates transversely in the shallow pit on rails spaced 21 ft. on centers and positioned 5 ft. 9 in. below the depressed floor level. One pair of these wheels is roller-chain driven from a 3/4-hp. electric



Consolidated drop table without detachable top installed at the C. & E.I. diesel shop, Danville, Ill.

motor suitably mounted under the table. Four large corner screws extend through the drop table and carry saddles at the lower ends which fit over the rail heads, resting in taper positioning blocks and preventing the screws from turning. Table motion vertically is secured by worm-gear drive from a 30-hp. reversible electric motor located under the center of the table. Electricity is supplied through the rubber-covered cable and a spring-operated reel. Both table lifting and transfer movements are controlled by a pendant push button and extension cord which may be plugged in at selected points outside the pit.

The Consolidated drop table in the I.C. installation is not equipped with rails but is of flat, platform-type construction and, when not in actual use, stands at depressed floor level on the right side of the detachable top. In this position the table spans the pit at the depressed floor level, allowing men to work around a locomotive and providing uninterrupted passage for men and material across the pit beneath the deck-level platform.

When a diesel truck is to be dropped, the locomotive is spotted on the detachable top and the truck is dis-

connected. The platform-type Consolidated drop table is then dropped down onto the pit rails, traversed to a position under the detachable top, raised and nested beneath the top. After projecting the body-support brackets beneath the locomotive jacking pads, the truck is dropped, traversed to the release track in the heavy-repair section on the other side of the partition through the shop, raised to repair track level and released.

Due to the nature of work performed on the repair track, there is no objection to the pit being left open in this portion of the shop. A removable chain or pipe guard may be provided if desired.

Advantages of the drop table installation at Harahan may be summarized as follows: (1) Detachable top and drop table both span the pit at depressed floor level; (2) pit in the running repair section is completely enclosed and covered, giving plenty of room for men working around the locomotive and for unrestricted, free passage of material; (3) pit is kept to a shallow depth; and (4) a saving in truck release and re-application time with attendant increase in locomotive availability.



At this modern wood-preserving plant over a million and a half cross-ties are stored in the yard along with switch ties, timber and lumber

Tie Treatment and Timber Preservation

By GRANT B. SHIPLEY*

Railroad men have long known that their industry is the largest user of pressure-treated wood, due principally to the great number of treated cross and switch ties installed in the tracks. They also have seen the beneficial results of such wood treatment in the reduction of tie renewals on their own roads as the longer service life of the treated ties compared with untreated ties manifested itself, particularly in recent years. But what have been the *total* savings in terms of dollars and wood to the railroads and to the nation? To determine the answers to this question the writer made a study of cross-tie statistics for all railroads in the United States for a period of 52 years—from 1898 to 1949, inclusive. The resulting findings will be of interest to every railroad man.

As the stands of the more durable woods became depleted, it was necessary for the railroads of the United

Study of cross-tie statistics results in figures giving the total savings in dollars and wood that are now being realized due to improved methods of wood preservation

*Mr. Shipley has been identified with the wood preservation industry for 46 years, during which period he has been particularly interested in the treatment of railroad cross-ties and timber.

States to use the nondurable woods which must be treated to secure long life in the track. If this had not been done, it would now be almost impossible to supply today's demand for crossties (compare graphs A and G on the chart). Also, it is certain that the cost of the available ties would be so high as to make their use almost prohibitive, in which event it would be necessary to use costly substitute materials which so far have not proved practical.

Greater Savings in the Future

In reviewing the figures of crossties treated in the United States, it was determined that 1.954 billion crossties were treated in the 90-year period from 1860 to 1949. The idea of treating crossties gained slowly for in the first 40 years of this period only 1.38 per cent of all ties were treated. In sharp contrast, 90.3 per cent of the ties inserted during the 15-year period 1934-1949 were treated (see graph F on chart). Furthermore, most of the ties that were treated since 1929 are still in the tracks and the probabilities are that they will give a service life of 30 to 40 years.

For the 52-year period 1898 to 1949, the estimated average life of treated crossties (including those of some of the early less successful treatments) in all tracks in the United States was 21.7 years. This compares with an assumed life of only 5 years for untreated nondurable wood ties. This longer service life has had a market effect on the number of ties renewed per mile of maintained track. Concrete evidence of this is given by comparing the average crosstie renewals, as reported by the Committee on Ties of the American Railway Engineering Association, of 112 ties per mile for the 5-year period ending with 1949, with the 359 ties per mile installed in 1898. The renewals in 1949 were 91 ties per mile.

It is interesting to speculate as to what this conservation of timber, as the result of using pressure-treated crossties, has meant to the railroads and the nation. If no treated ties had been used, and allowing a service life of five years for the untreated ties, the railroads would have required a total of 9.212 billion crossties during the 52-year period 1898-1949 (graph A on chart). Actually, only 4.435 billion ties were used during this period and, of this number, 1.192 billion were still in the tracks in 1949. Thus, the savings would be 4.777 billion crossties over the 52-year period, or the equivalent of about 172 billion ft. b.m. of timber.

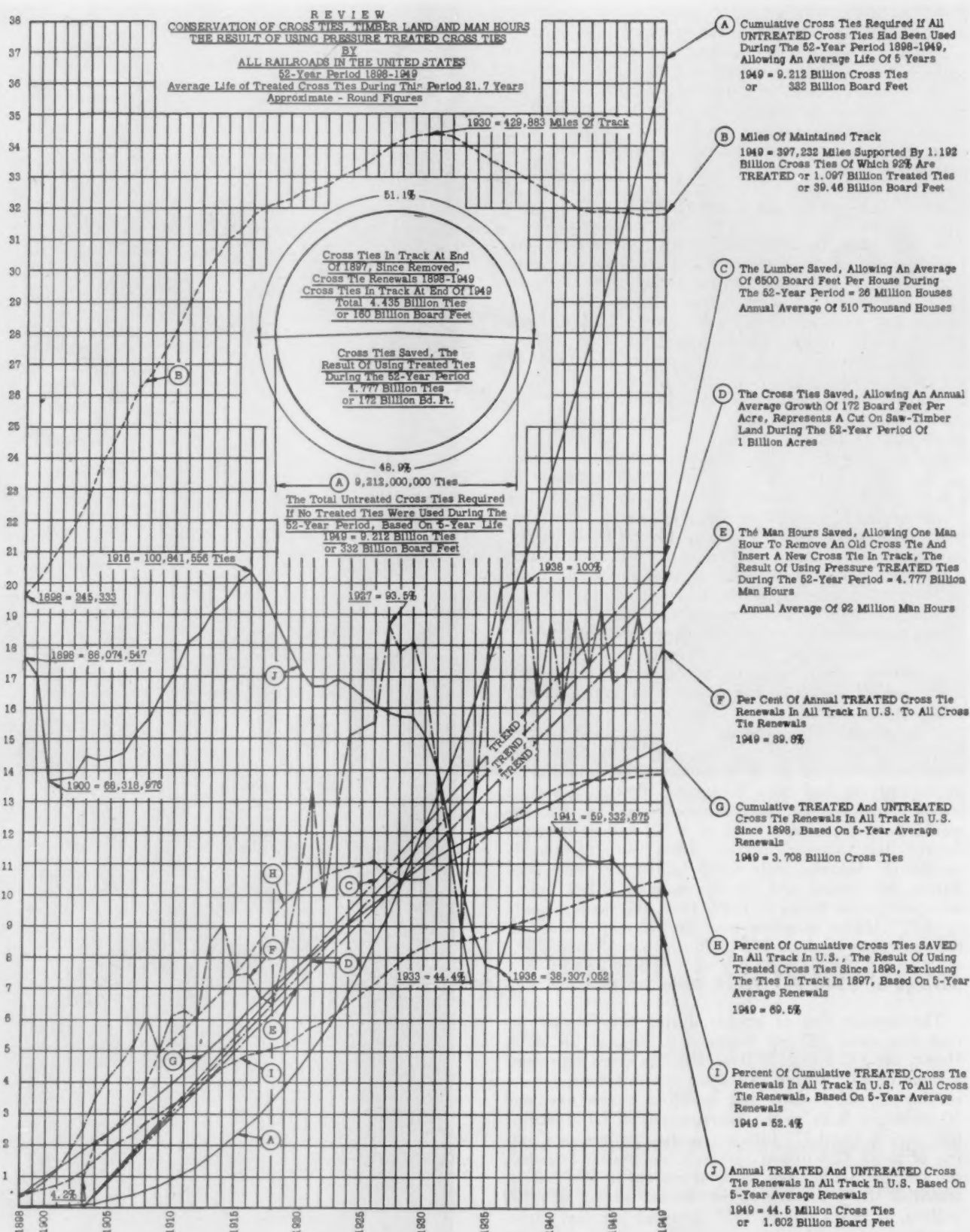
Savings of \$340 Per Track Mile

The average cost of lumber during this 52-year period was about \$25 per thousand ft. b.m. at the mills. Hence, the 172 billion ft. b.m. that was saved represents a value of \$4.3 billion. Allowing one man-hour for removing an old crosstie and inserting a new one, and 50 cents per hour as the average cost of labor during this period, the 4.777 billion crossties represents a saving of about \$2.4 billion (graph E on chart). Together, the savings in labor and material amount to \$6.7 billion, which is the equivalent to an annual saving of \$129 million, or at the rate of \$353 thousand per day. Figuring the savings of labor and materials in yet another way and using the figure of 379,276 as the annual average mileage of track in the United States during the 52-year period, the total saving was \$17,665 per mile of track, while the annual average saving was \$340 per mile of track.

But in addition to the savings to the railroads, the non-use of this material made 172 billion ft. b.m. of lumber available to the nation's building industry. Allow-



Crossties and railroad structural timber have been cut and are being cut from such timberlands as this stand of fir in the state of Washington



This chart graphically indicates how the preservative treatment of cross ties has benefited the railroads and has resulted in the conservation of a vast amount of timber

ing 6,500 ft. b.m. of lumber for the construction of a house, the lumber saved by the railroads through treated cross ties would represent the amount of material required to build 26 million houses (graph C). And, since

the annual average consumption of lumber in the United States during this same 52-year period was 34 billion ft. b.m., the 172 billion ft. b.m. saved represents five years of lumber consumption.

Trains of tram cars loaded with crossties which are to be treated in the treating retorts shown in the background



When it is realized that the annual growth of saw timber on saw-timber land is about 172 ft. b.m. per acre, it is easy to see that the crossties saved during this period represent the total growth of one billion acres of saw-timber land (graph D), or the annual growth of 19.23 million acres. Furthermore, since it requires a minimum of 60 years to grow tie timber, the total growth savings would represent 1.15 billion acre-years. With the annual growth of saw timber now at the rate of 35.3 billion ft. b.m., the 172 billion ft. b.m. represents 4.87 years' growth.

Still another way of expressing the crosstie saving of 172 billion ft. b.m. is in acres of commercial forest lands. These lands amount to 461 million acres and have a stand of 1,601 billion ft. b.m. of virgin and second-growth timber. Hence the crosstie savings represent a stand of about 50 million acres of timber.

In 1949, Class I railroads in the United States re-

ported 330,612 miles of maintained track, supported on 993 million crossties. In that year these roads installed a total of 30,285,046 ties, of which 96 per cent were treated. In this same year, the Class I, II and III railroads had a total of 397,232 miles of track, supported by 1.192 billion crossties, of which about 92 per cent, or 1.097 billion ties, were treated.

The more consistent use of pressure-treated creosoted crossties in all tracks in the United States should make the annual tie renewals average 2.75 per cent of the total ties in the track, or at the rate of 83 crossties per mile of this track. This would result in an annual requirement of 33 million crossties, which is the equivalent of about 1.2 billion ft. b.m. At the growth rate of 172 board feet, this annual crosstie-renewal demand would require the growth of only 7 million acres of commercial forest land, as compared to the growth of about 37 million acres if all untreated ties had been installed.

January Purchases Total \$347,482,000

Equipment commitments over twice those for January 1950

Purchases by domestic railroads of locomotives and cars in January 1951 called for commitments of approximately \$154,923,000, more than twice the \$72,586,000 required for such equipment ordered in January 1950. Rolling stock ordered in the first month of the current year included 26,356 freight-train cars costing about \$144,960,000, and 75 diesel-electric locomotive units costing approximately \$9,963,000.

Total purchases of all types of material in January amounted to \$347,482,000, an increase of about 79 per cent over the \$193,600,000 outlay in the preceding January. The dollar value of purchases in January 1951,

1951 RAILWAY PURCHASES*

	January 1951 (000)	January 1950 (000)
Equipment **	\$154,923	\$ 72,586
Rail	7,589	8,806
Crossties	6,587	3,823
Other Material	116,830	61,685
Total from Manufacturers	\$285,929	\$146,900
Fuel	61,553	46,700
Grand Total	\$347,482	\$193,600

* Subject to revision.

** Amount placed on order.

compared with January 1950, was higher in all categories except rail, which decreased from \$8,806,000 to \$7,589,000. Tabulation appears on page 46.

JANUARY* PURCHASES OF MANUFACTURED GOODS (Excl. Equipment and Fuel)

Jan. '51 Compared to Other Jans. (000)			Jan. '51 Compared to Other Months '50 (000)		
Year	Amt.	% Change	Month	Amt.	% Change
1945	\$77,944	+ 68	Feb. '50	\$72,304	+ 81
1946	77,855	+ 68	Apr. '50	86,610	+ 51
1947	97,962	+ 34	June '50	96,715	+ 35
1948	102,136	+ 28	Aug. '50	98,911	+ 32
1949	110,271	+ 19	Oct. '50	112,974	+ 16
1950	74,314	+ 76	Dec. '50	113,829	+ 15
1951	131,006		Jan. '51	131,006	

JANUARY* PURCHASES OF RAIL

Jan. '51 Compared to Other Jans. (000)			Jan. '51 Compared to Other Months '50 (000)		
Year	Amt.	% Change	Month	Amt.	% Change
1945	\$5,734	+ 32	Feb. '50	\$6,444	+ 18
1946	5,089	+ 49	Apr. '50	7,796	- 3
1947	7,723	- 2	June '50	7,627	.....
1948	7,547	.....	Aug. '50	8,109	- 6
1949	7,407	+ 2	Oct. '50	8,759	- 13
1950	8,806	- 14	Dec. '50	8,234	- 8
1951	7,589		Jan. '51	7,589	

JANUARY* PURCHASES OF CROSSTIES

Jan. '51 Compared to Other Jans. (000)			Jan. '51 Compared to Other Months '50 (000)		
Year	Amt.	% Change	Month	Amt.	% Change
1945	\$5,601	+ 18	Feb. '50	\$3,985	+ 65
1946	5,822	+ 13	Apr. '50	5,286	+ 25
1947	7,421	- 11	June '50	5,654	+ 17
1948	5,630	+ 17	Aug. '50	4,746	+ 39
1949	7,473	- 12	Oct. '50	5,340	+ 23
1950	3,823	+ 72	Dec. '50	5,990	+ 10
1951	6,587		Jan. '51	6,587	

JANUARY* PURCHASES OF OTHER MATERIAL

Jan. '51 Compared to Other Jans. (000)			Jan. '51 Compared to Other Months '50 (000)		
Year	Amt.	% Change	Month	Amt.	% Change
1945	\$66,609	+ 75	Feb. '50	\$61,875	+ 89
1946	66,944	+ 75	Apr. '50	73,528	+ 59
1947	82,818	+ 41	June '50	83,434	+ 40
1948	88,959	+ 31	Aug. '50	86,056	+ 36
1949	95,391	+ 22	Oct. '50	98,875	+ 18
1950	61,685	+ 89	Dec. '50	99,605	+ 17
1951	116,830		Jan. '51	116,830	

JANUARY* PURCHASES OF FUEL

Jan. '51 Compared to Other Jans. (000)			Jan. '51 Compared to Other Months '50 (000)		
Year	Amt.	% Change	Month	Amt.	% Change
1945	\$47,826	+ 29	Feb. '50	\$34,823	+ 77
1946	51,312	+ 20	Apr. '50	51,288	+ 20
1947	59,602	+ 3	June '50	48,856	+ 26
1948	73,468	- 16	Aug. '50	52,512	+ 17
1949	65,368	- 6	Oct. '50	57,984	+ 6
1950	46,700	+ 32	Dec. '50	57,744	+ 7
1951	61,553		Jan. '51	61,553	

JANUARY* TOTAL PURCHASES (Excl. Equip.)

Jan. '51 Compared to Other Jans. (000)			Jan. '51 Compared to Other Months '50 (000)		
Year	Amt.	% Change	Month	Amt.	% Change
1945	\$125,770	+ 53	Feb. '50	\$107,127	+ 80
1946	129,167	+ 49	Apr. '50	137,898	+ 40
1947	157,564	+ 22	June '50	145,571	+ 32
1948	175,604	+ 10	Aug. '50	151,423	+ 27
1949	175,639	+ 10	Oct. '50	170,958	+ 13
1950	121,014	+ 59	Dec. '50	171,573	+ 12
1951	192,559		Jan. '51	192,559	

*Subject to revision.

†All total inventory figures taken from I.C.C. statement M-125 for the month indicated.

JANUARY* INVENTORIES OF RAIL

Jan. '51 Compared to Other Jans. (000)			Jan. '51 Compared to Other Months '50 (000)		
Year	Amt.	% Change	Month	Amt.	% Change
Jan. 1, 1945	\$24,292	+ 58	Feb. 1, '50	\$36,893	+ 4
1946	24,840	+ 54	Apr. 1, '50	41,482	- 8
1947	30,192	+ 27	June 1, '50	38,618	- 1
1948	32,924	+ 16	Aug. 1, '50	38,258	.....
1949	33,243	+ 15	Oct. 1, '50	38,478	- 1
1950	31,926	+ 20	Dec. 1, '50	37,052	+ 3
1951	38,278		Jan. 1, '51	38,278	

JANUARY* INVENTORIES OF CROSSTIES

Jan. '51 Compared to Other Jans. (000)			Jan. '51 Compared to Other Months '50 (000)		
Year	Amt.	% Change	Month	Amt.	% Change
Jan. 1, 1945	\$72,434	+ 16	Feb. 1, '50	\$102,491	- 18
1946	72,519	+ 16	Apr. 1, '50	106,269	- 21
1947	83,891	.....	June 1, '50	95,463	- 12
1948	92,300	- 9	Aug. 1, '50	87,711	- 4
1949	94,256	- 11	Oct. 1, '50	82,609	+ 1
1950	101,394	- 17	Dec. 1, '50	81,641	+ 3
1951	83,804		Jan. 1, '51	83,804	

JANUARY* INVENTORIES OF OTHER MATERIAL

Jan. '51 Compared to Other Jans. (000)			Jan. '51 Compared to Other Months '50 (000)		
Year	Amt.	% Change	Month	Amt.	% Change
Jan. 1, 1945	\$437,575	+ 20	Feb. 1, '50	\$526,201	.....
1946	435,326	+ 21	Apr. 1, '50	521,506	+ 1
1947	476,625	+ 11	June 1, '50	518,654	+ 2
1948	560,703	- 6	Aug. 1, '50	519,815	+ 1
1949	611,864	- 14	Oct. 1, '50	511,420	+ 3
1950	528,399	.....	Dec. 1, '50	513,698	+ 3
1951	526,865		Jan. 1, '51	526,865	

JANUARY* INVENTORIES OF SCRAP

Jan. '51 Compared to Other Jans. (000)			Jan. '51 Compared to Other Months '50 (000)		
Year	Amt.	% Change	Month	Amt.	% Change
Jan. 1, 1945	\$10,155	+ 80	Feb. 1, '50	\$14,840	+ 23
1946	11,258	+ 62	Apr. 1, '50	14,147	+ 29
1947	12,572	+ 45	June 1, '50	14,304	+ 28
1948	13,225	+ 38	Aug. 1, '50	13,669	+ 34
1949	18,849	- 3	Oct. 1, '50	14,008	+ 30
1950	14,874	+ 23	Dec. 1, '50	15,413	+ 18
1951	18,260		Jan. 1, '51	18,260	

JANUARY* INVENTORIES OF FUEL

Jan. '51 Compared to Other Jans. (000)			Jan. '51 Compared to Other Months '50 (000)		
Year	Amt.	% Change	Month	Amt.	% Change
Jan. 1, 1945	\$59,182	- 1	Feb. 1, '50	\$45,969	+ 28
1946	51,816	+ 13	Apr. 1, '50	42,492	+ 38
1947	49,873	+ 18	June 1, '50	45,298	+ 29
1948	66,388	- 22	Aug. 1, '50	46,329	+ 27
1949	96,900	- 40	Oct. 1, '50	50,875	+ 15
1950	48,928	+ 20	Dec. 1, '50	57,909	+ 1
1951	58,612		Jan. 1, '51	58,612	

JANUARY* TOTAL INVENTORIES†

Jan. '51 Compared to Other Jans. (000)			Jan. '51 Compared to Other Months '50 (000)		
Year	Amt.	% Change	Month	Amt.	% Change
Jan. 1, 1945	\$603,638	+ 20	Feb. 1, '50	\$726,394	.....
1946	595,759	+ 22	Apr. 1, '50	725,896	.....
1947	653,153	+ 11	June 1, '50	712,337	+ 2
1948	765,540	- 5	Aug. 1, '50	705,782	+ 3
1949	855,112	- 15	Oct. 1, '50	697,390	+ 4
1950	725,521	.....	Dec. 1, '50	705,713	+ 3
1951	725,819		Jan. 1, '51	725,819	

GENERAL NEWS

"Non-Op" Escalator Wage Increase Delayed for "Stabilization" Test

Army withholds 6-cent raise pending study by "emergency panel" appointed by E.S.A. administrator at request of President Truman

The additional six-cents-per-hour wage increase due railroad non-operating employees under the settlement of March 1 has been delayed for testing in the light of the current "stabilization" program. Acting in response to a request by President Truman, Administrator Johnston of the Economic Stabilization Agency issued an April 10 order creating a "temporary emergency railroad wage panel" to "conduct hearings and otherwise investigate the circumstances and merits of the request for approval" of the increase.

Meanwhile, the Department of the Army, which is operating the railroads under the President's seizure order of last August 25, has withheld the increase that was scheduled to become effective April 1. In announcing this action, Assistant Secretary of the Army Bendetsen made it plain that it was taken in response to a request from Administrator Johnston and upon advice of Attorney General McGrath.

The Army had previously directed that the increase be made effective on schedule. "The Army has been and continues to be ready and willing to authorize payments . . . as soon as it can legally do so," the assistant secretary said.

The stabilization program provides generally that increases awarded in agreements entered after January 25, 1951, must not raise wages by more than 10 per cent above the January, 1950, basis. The 10 per cent limit would seem to apply to the "non-op" agreement which was entered after the January 25 deadline. The agreement awarded a basic wage increase of 12½ cents per hour, and it has escalator provisions calling for additional increases of one cent per hour for each point of increase above 178 in the Bureau of Labor statistics' consumers' price index. The 6-cent increase due as of April 1 was based on the February 15 index which was 184.2.

Under the "stabilization" program, the "non-ops" would be entitled to an additional increase of only about 2½ cents per hour at this time. Their average hourly rate in January, 1950, was about \$1.48; so the 10 per cent increase permitted would give them about 14.8 cents, of which they have already received 12½ cents.

In agreeing not to pierce the ceiling

pending the emergency panel's study of the matter, the Army first announced that it would order payment of the 2½ cents permitted by the "stabilization" program. Its subsequent decision to withhold the whole six cents was in response to a joint request made by leaders of the "non-op" unions and chairmen of the carrier conference committees representing management in the case. The parties preferred "to await action of the special panel . . . rather than split the amount due," Assistant Secretary Bendetsen said.

Members of the panel are William M. Leiserson, former chairman of the National Mediation Board; Lloyd K. Garrison, former chairman of the National War Labor Board; and Frank M. Swacker, a New York attorney who has served on several emergency boards created under the Railway Labor Act.

Submitted on March 27

The "request for approval" of the increase, to which the Johnston order referred, was submitted to the E.S.A. administrator on March 27 by the carrier conference committees. In making its findings and recommendations as to that request, the panel "shall give due consideration to the over-all national economic stabilization program, including wage stabilization regulations," the Johnston order also said. It then added that none of its provisions "shall be deemed to inter-

fere or conflict with the Railway Labor Act or any agency created thereby or thereunder."

The panel's determinations will not be final. They will be "recommendations for action" by Mr. Johnston, as President Truman made clear in his letter suggesting the arrangement to the E.S.A. administrator.

The President suggested that the panel would provide "interim machinery" to handle the "non-op" case. He also suggested that it might be used to consider "other wage cases in the transportation industry pending the establishment of more permanent machinery."

Mr. Truman Explains

What the President had in mind in the way of "permanent machinery" was indicated in another part of his letter which read as follows:

"Traditionally, the government has provided separate machinery to deal with the distinctive problems of the transportation industry As experience demonstrates, there are many advantages in combining the wage stabilization functions and the labor dispute settlement functions within the same agency. I wish that you would examine ways and means by which the officials now responsible for the settlement of labor disputes in the transportation industry might help administer the wage stabilization program in that industry, subject to your direction and control in conformity with the Defense Production Act of 1950. In exploring this matter you will want to work with officials of the National Mediation Board.

"I ask that you submit to me your views and recommendations on the general matter. Considerable care

In the Week's News . . .

HIGHLIGHTS

Materials Plan Effective July 1	48
F. W. Charske with U. P. 50 Years	48
Rogers Calls Quiz "Intimidation"	48
I.C.C. Rejects "Trainload" Rate	50
10,000 Cars-a-Month Soon, Says Wright	50
P.I.E. Can't Buy Keeshin	51
Senate "Op" Hearings End	53

DEPARTMENTS

Organizations	61
Supply Trade	64
Equipment & Supplies	71
Abandonments	71
Car Service	72
Construction	73
Financial	75
Railway Officers	77

will have to be taken in devising sound and workable procedures and organizational relationships. The task is to facilitate administration of the wage stabilization program and use to the best advantage the existing resources of the National Mediation Board."

Materials Plan Will Become Effective July 1

National Production Authority announces new controls set-up

Manly Fleischmann, administrator of the National Production Authority, announced on April 13 that a Controlled Materials Plan would be placed in operation July 1 "for defense production and certain defense supporting activities vital to meeting rearmament needs." The "tentative list" of products to be covered is a long one, which includes locomotives and railroad cars.

C.M.P., Mr. Fleischmann explained, is a plan by which three basic metals—steel, copper, and aluminum—are allotted directly to producers on the basis of requirements submitted in advance for the manufacture of goods which the government needs for the defense program.

"C.M.P.," the explanation continued, "makes it possible to authorize specific production schedules and make firm allotments of the three basic metals needed to meet, but not exceed, direct defense and defense supporting production and construction goals—on time and in proper quantities."

The first phase of the C.M.P. opera-

tion will be the reporting to N.P.A. by producers of their detailed requirements for the basic materials on forms which will be sent to them in May. The second phase will be the allotment of the specific amounts of materials to producers starting July 1, after determination by the Defense Production Administration of the necessary production programs.

Mr. Fleischmann said that manufacturers of military products, products for the Atomic Energy Commission and "certain defense related construction projects" will file their requirements under C.M.P. regulations. Also required to file will be manufacturers of other products using steel, copper and aluminum—excepting consumer durable goods. Repair shops will not file since they will be covered by a special C.M.P. regulation which will give them materials without application to N.P.A. Manufacturers of repair and replacement parts, however, will be required to file with N.P.A.

Mr. Fleischmann's explanation of "how C.M.P. operates" pointed out that, as in World War II, products programmed under C.M.P. fall in two categories—"A" products and "B" products.

"In general," the explanation continued, "'A' products are those where the most convenient method of production authorization is vertical. Producers of 'A' products get their production authorizations and material allotments from their customer.

"The 'B' list will include certain products where it is most practicable to furnish authorizations horizontally, directly to the producer. In general, this list will include certain civilian-type products, industrial machinery and equipment and components which are needed for defense. Producers on

the 'B' list will obtain their authorizations and allotment from their N.P.A. industry division."

As to the need for C.M.P., Mr. Fleischmann implied that the "few controls" and "simple priority system" (the DO-rating set-up) now in effect will become inadequate, because the impact of the defense program is "mounting." He added: "As blueprints and orders are increasingly translated into actual production and actual consumption of basic materials, C.M.P. will provide a continuation of the orderly flow of materials and production of the things needed."

Rogers Calls Tobey Quiz "Intimidation"

Says same of union's protest against his reappointment

Interstate Commerce Commissioner John L. Rogers complained that "intimidation" was involved in questions which Senator Tobey, Republican of New Hampshire, asked him at an April 5 hearing before the Senate Committee on Interstate and Foreign Commerce. The hearing was one of the series which the committee held in connection with its consideration of President Truman's reappointment of Mr. Rogers for a new seven-year term on the commission.

Senator Tobey's questions related to the decision made by the commission's Division 5 in the so-called truck-leasing case (Ex Parte No. MC-43) which is still awaiting final decision, the commission having reopened it for reconsideration of Division 5's report (see *Railway Age* of July 15, 1950, page 54, and October 7, 1950, page 80). Mr. Rogers is a member of Division 5.

It was the division's failure to prohibit trip leasing, and thus curb the use by carriers of so-called "gypsy" truckers, that has caused the International Brotherhood of Teamsters to oppose Mr. Rogers. The principal I.B.T. presentation, made by the union's director of research, Frank Tobin, was characterized by Mr. Rogers as "intimidation of me and of other members of the commission."

In a rebuttal statement, made at the closing hearing on April 10, Mr. Tobin asserted that "the only intimidated parties are the carriers—both motor and rail who have had the 'word' reach them either from Rogers or his supporters that it would be 'wise' to support Rogers." The truck, bus, and forwarder industries made official presentations in support of Mr. Rogers. There was no similar railroad-industry presentation, but J. Carter Fort, vice-president and general counsel of the Association of American Railroads, made a personal statement

F. W. CHARSKA MARKS 50th YEAR WITH U. P.

F. W. Charske, chairman of the executive committee of the Union Pacific since 1932, completed his fiftieth



F. W. Charske

year of service with that railroad on April 5. Mr. Charske is one of the few

railroad men still active who worked under E. H. Harriman during the rebuilding of the U.P. which began in 1898 and continued through the first ten years of the twentieth century.

Born in Hempstead, Tex., on January 26, 1881, Mr. Charske was graduated from Texas Agricultural & Mechanical College and went to work on April 5, 1901, as an auditing clerk at the Houston, Tex., office of the Southern Pacific, which came under control of the U.P. during the following month.

Among his financial achievements on behalf of the U.P. was the refunding in March 1946 of the road's refunding bonds at a cost of 2.46 per cent, said to be the lowest rate of interest for a long-term financial security in the corporate history of the country. In 1947 Mr. Charske supervised the paying off in cash, of \$100,000,000 of the road's "railroad and land grant first gold 4's of 1947," dated July 1, 1897. The U.P.'s total interest payment is currently \$1,848,000 less than in 1901.

urging favorable committee action on the reappointment.

Like the I.B.T. protest, the Tobey questions reflected concern about activities of the "gypsies." Mr. Rogers' reluctance to discuss the matter was based on the fact that he still has to participate in the commission's final determination of the leasing case.

Senator Tobey said he did not think his questions involved "intimidation," and he asserted that one with "guts to be a member of the I.C.C. should be above intimidation." That is "how I've tried to keep myself," Mr. Rogers replied.

The committee's chairman, Senator Johnson, Democrat of Colorado, expressed his view that the Tobey questions were "exploratory" and reflected no "intimidation." He assured Mr. Rogers that the commissioner's answers would not bind him in any way. On that basis, Mr. Rogers suggested that the examination go on.

Disregard for Safety

Meanwhile, he had conceded to Senator Tobey that there is a "considerable" disregard for the commission's motor-carrier safety rules. At the same time, Mr. Rogers noted that the violations are not confined to the "gypsies." The commissioner also pointed out that the Teamsters union "has been violently opposed to restrictions on the driver."

At the April 5 hearing, prior to the questioning by Senator Tobey, the committee heard witnesses oppose Mr. Rogers on grounds that the I.C.C. "has consistently and arbitrarily taken a stand against participation by common stockholders in reorganization cases."

John M. Balliet, one of these witnesses, reviewed various reorganization cases, including that of the St. Louis Southwestern, where, he said, the commission's determination to wipe out common stockholders was a "gross fraud" on these security holders. That same stock has sold for as high as \$252 a share on the New York Stock Exchange this year. Mr. Balliet de-

Rogers and Rentzel Win Senate Committee O.K.

The Senate Interstate and Foreign Commerce Committee voted April 11 to recommend favorably to the Senate President Truman's nomination of John L. Rogers for another term on the Interstate Commerce Commission.

The committee also voted to approve Delos W. Rentzel's appointment as Under Secretary of Commerce for Transportation. The nomination of Donald W. Nyrop to be a member of the Civil Aeronautics Board, and Charles Horne as administrator of the Civil Aeronautics Administration was approved by the committee.



ALL STEAMED UP, and ready to play its part in the May 14-15 reenactment of the Erie's inaugural run from Piermont, N. Y., to Dunkirk, the hundred-year-old "William Mason" poses alongside one of its great-great-grandchildren

—a brand new four-unit, 6,000-hp. road diesel. The Erie centennial, which marks the completion of the first through rail line from the Atlantic Ocean to the Great Lakes, will be covered in detail in the May 14 issue

clared that the Cotton Belt case "is closely paralleled" by the still-pending Missouri Pacific case.

Stockholders oppose Rogers

After Senator Tobey declared that the I.C.C.'s action in the Cotton Belt case was "an outrage," and that the M.P. reorganization constitutes "a sordid and tragic picture," Mr. Balliet went on to say that he and other M.P. common stockholders were opposing Mr. Rogers because he is a part of the "ineptness" of the commission. He was joined by T. C. Davis, chairman of the board of the M.P., who said the commission should recall the M.P. plan of reorganization from the courts and "take the lead in taking this road out of reorganization."

Ernie Adamson, Pittsburgh attorney, followed Mr. Davis to the stand to tell the committee that Mr. Rogers was being unjustly attacked as a "symbol" of the commission. Referring to charges of lax motor carrier regulation, Mr. Adamson said the job of director of the commission's Bureau of Motor Carriers should be abolished, and his duties placed with the commission secretary. This, he suggested, would be one way of strengthening motor carrier regulation generally.

The hearings were recessed until April 10, and were concluded on the latter date. At the final session both sides were allotted one hour for rebuttal presentations. R. Granville Curry, chairman of the I.C.C. practitioners committee on commission appointments, again appeared in support of Mr. Rogers. He charged that the Teamsters union had used the hearings as a forum in which to "relitigate and reargue" the "leasing" case which is still before the I.C.C.

Mr. Curry said it was the union which sought reconsideration by the full commission of Division 5's report in that case, and declared that contentions made before the Senate committee were the same as the union used in presentations at the I.C.C. As to the arguments by Missouri Pacific witnesses, Mr. Curry said they had shown "no good reason" for rejecting Mr. Rogers.

Mr. Tobin's final remarks were along the lines of his previous testimony when he said motor carrier regulation is at its "lowest ebb," and that normal rate structures are being "riddled" by the "gypsy" operators—matters which Commissioner Rogers, as head of the motor carrier bureau, "has failed to correct."

He said nobody appearing on behalf of Mr. Rogers "has taken issue with my basic indictment," but rather that Commissioner Rogers had agreed, in his questioning by Senator Tobey, that trucking regulation is "lousy." He again urged that Mr. Rogers nomination be reported unfavorably.

Gas-Turbine Locomotive Progress Reported

Substantial progress in development of gas-turbine locomotives for American railway service was reported at the Midwest Power Conference, sponsored by the Illinois Institute of Technology in cooperation with other schools and technical societies, and held at Chicago April 4-6.

At the afternoon session on April 6, presided over by J. T. Rettaliata, dean of engineering of the institute, speakers included J. I. Yellott, director of research, Locomotive Develop-



UNIVERSITY OF TENNESSEE transportation students were transported to their railway yard "classroom" in a special Southern bus when they recently toured Southern facilities at Knoxville. They are shown here, along with their

guides, as they started on the trip—one of the tours which the U. of T. transportation department regularly uses to fuse textbook knowledge with information gained by direct personal observation

ment Committee, Baltimore, Md., Alan Howard, Gas-Turbine Engineering division, General Electric Company, Schenectady, N. Y.; T. J. Putz, manager, Locomotive and Gas-Turbine Engineering, Westinghouse Electric Corporation, Philadelphia, Pa., and W. B. Tucker, Turbo Power Development department, Allis-Chalmers Manufacturing Company, Milwaukee, Wis.

Mr. Yellott said experience to date indicates the goal of a practicable coal-fired gas-turbine locomotive is attainable, and credited much of the success of recent tests to F. D. Buckley, manager, Research and Development division, Locomotive Development Committee Project, American Locomotive Company, Dunkirk, N. Y. Mr. Tucker showed how objectionable exhaust noise has been overcome in the Allis-Chalmers gas-turbine power unit. Mr. Howard described progress to date with tests of the G.E. gas-turbo-electric locomotive on the Union Pacific, which has ordered 10 units of the same general type. Mr. Putz brought members up to date on the status of the Baldwin-Westinghouse gas-turbo-electric locomotive now in experimental general service on the Bessemer & Lake Erie.

I.C.C. Rejects "Trainload" Rate

Division 3 of the Interstate Commerce Commission has ordered cancellation of suspended tariffs whereby railroads operating between Brownsville, Tex., and St. Louis, Mo., and Chicago proposed to establish multiple-car import rates on lead bullion, pig lead, and antimonial lead. The division's report was in I.S. Docket No. 5796.

The proposed rates, designed to meet barge competition, would have

applied from Brownsville to St. Louis, East St. Louis and Chicago. They would have been subject to a minimum weight of 500 tons per shipment, transported as one operation under one bill of lading and delivered to one consignee; but no restriction was proposed as to the number of cars used.

As originally proposed, the relationships to the single-car rates would have ranged from 70 per cent to 87.6 per cent. The railroads later suggested that the 70 per cent proposal, which would have been the Brownsville-Chicago rate, be put on a 74 per cent basis.

The division's adverse ruling was based on findings that these relationships would not be just and reasonable, and that the proposed rates were not necessary to meet the "limited" water competition involved.

10,000 Cars-a-Month Soon, Says Wright

The 10,000-cars-a-month objective is near fulfillment, Charles W. Wright, president of the American Railway Car Institute, said in Boston, Mass., on April 10. Speaking before the New England Railroad Club, Mr. Wright pointed out that railroads, like all key industries, are suffering from growing pains. "They cannot hurdle from a peacetime pace to the burdens of a national emergency without difficulties similar to those of other industries in transition. The difference is that railroads are a spotlight industry. Shortages in railroad transportation are headline news. That this is true is indicative of the basic importance to America of the railroad system."

"Only recently the statement was made in official quarters [Mr. Wright went on] that the current freight-car shortage is the largest in history. This statement happens to be based upon faulty information. As-

surely, railroad management does not seek to deprecate the importance of the shortage. There cannot be—and is not, as I have observed—any attempt to take the situation lightly. One hundred and sixty thousand freight cars on order is testimony in substantial form to railroad management's recognition of the problem. But neither are shamefaced apologies in order any more than the steel industry need be tongue-tied at its inability to meet suddenly the demands of military requisites piled on top of great civilian orders. Or the meat industry over shortages induced by inflated public purchasing power.

"Reduced to essence, today's scarcity of freight cars is the handiwork of the trying times through which the carriers have passed these last 18 years. It is the outgrowth of a decade of starvation revenue, followed by five years in which war production made broad-scale reequipment an impossibility and during which the railroads literally ran the wheels off their rolling stock."

Production of freight cars is moving forward, although, because of circumstances largely beyond the control of railroads and carbuilders, it is not as rapid as desired. The National Production Authority, he reminded his audience, allocated steel, as of last January 1, for 10,000 cars a month. However, he emphasized, it was only the allocation of steel which began on that date and the 10,000-cars-a-month objective was not scheduled to be reached until spring. Experience has shown that whether cars are constructed by independent carbuilders or in railroad shops, a minimum of 90 days is required for processing and manufacture.

"Fabrication takes time. The rolled steel which we receive must be sheared, pressed, punched, welded, riveted, flanged and turned as it is made into the many components from which the completed car is built, such as the underframes, sides, doors, ends, roofs and the dozens upon dozens of miscellaneous parts . . . Just a given total of steel is not sufficient. It must be in complete car sets, else one missing item such as insufficient bars or sheets can hold up an entire production line. And this has been true recently as complete inventories are being built up . . . So we must counsel patience in all quarters, including shippers who are naturally disturbed when cars are in short supply. The freight-car fleet is increasing month by month. The cars are

830,000 CUB SCOUTS STUDY RAILROADING

Some 830,000 Cub Scouts—the "kid brothers" of the Boy Scouts—have the study of railroads and railroading as their theme, or project, for April. In preparation for the month's activities, eight full pages—one-quarter—of the March issue of Scouting, which goes each month to more than 100,000 Boy Scout and Cub Scout leaders all over the country, are devoted to suggestions for model railroad building, railroad games, songs and literature, "whistle talk" and other railroad lore of a type likely to appeal to the 8- to 11-year-old boys.

bigger and better cars than in years gone by."

Mr. Wright also said he hopes the day will come when railroad car construction, passenger and freight, will be concentrated in shops of independent carbuilders, with railroads devoting their energies only to transportation. He said that in his opinion such a move would benefit both railroads and carbuilders, pointing out that:

"Of the Class 1 railroads which have cars on order, 91.8 per cent are buying from independent carbuilders. Only six of the Class 1 roads who are buying cars are building exclusively in their own construction shops. Over the last 25 years new freight-car construction has reached 10,000 cars a month or over in only seven months. Assuming a continuing retirement by railroads of 5,000 to 6,000 cars per month, a constant flow for several years at least, of 10,000 cars per month will be needed to increase the fleet by 150,000 cars as envisioned by railroad presidents last year at Chicago."

Concentration of production on a steady basis through shops of independent builders would permit greater application of mass-production techniques and also would permit carbuilders to move further forward in research and engineering to develop new and more efficient designs, he said. "These are tangible benefits which we might expect from such concentration of manufacturing in the hands of specialists. . . . An intangible should be that railroad management would thus be freed of the responsibility for operating a manufacturing business as a byproduct of the transportation business."

"There have been direct and significant portents [Mr. Wright concluded] that the emergency period may be used by competitors in the transportation industry to thwart the determination of the railroads to obtain economic fair play in the competitive system under which they operate. That such fair play may become a reality, with each competing segment of transportation standing on its own economic legs without resort to government subsidies, is an objective to which the carbuilders have committed their aid to the railroads. We seek mutually a better understanding by the public . . . The railroads are asking for no special favors. They ask for no penalties or handicaps upon these other forms of transportation. Even recognizing that government subsidies in the infancy of essential industries can be justified, the railroads ask a new national transportation formula so that now that these competitors have come of age they pay their own way . . . The carbuilders propose to continue to follow the leadership of wise railroad management. We propose to continue to give to the railroads our support and cooperation. Such cooperation involves an enlightened self-interest on our part, for . . . what helps the railroads is good for the carbuilders as a working partner in the system."

I.C.C. Seeks Inspectors For Bureau of Safety

Announcement No. 285, issued March 27 by the U. S. Civil Service Commission, Washington, 25, D.C., gives information needed by applicants to qualify for examinations for the positions of inspector of hours of ser-

vice, inspector of railway signaling and train control, and inspector of safety appliances. The positions involved are on the staff of the Interstate Commerce Commission's Bureau of Safety.

The entrance salary is \$5,400 a year, the grade being GS-11. Applications must be filed on Form 5000-AB, and sent to the Civil Service Commission at Washington in time to be received there not later than May 29. Copies of Form 5000-AB may be obtained from C.S.C.'s Washington headquarters; from any first- or second-class post office, except in cities where a C.S.C. regional office is located; and in the Panama Canal Zone from the secretary, Board of U.S. Civil Service Examiners, Balboa Heights, C.Z.

Alco Defense-Products Backlog Tops \$180,000,000

The American Locomotive Company has a backlog exceeding \$180,000,000 in firm orders for defense products, and already has shipped to government agencies defense products valued at more than \$6,000,000. The company's backlog for regular "peacetime" products was \$107,000,000 on April 1, bringing total firm orders to \$287,000,000, according to Duncan W. Fraser, president. This compared with a backlog of \$50,000,000 a year ago, and except for two war years—1942 and 1943—is the largest backlog in Alco's history.

Canada to Follow Royal Commission

The Canadian government intends to implement recommendations of the Royal Commission on Transportation for equalization of freight rates across Canada, Transport Minister Lionel Chevrier has told the House of Commons at Ottawa, Ont. However, he indicated it is not yet known whether the legislation—a series of amendments to the Railway Act—will be ready for action by Parliament at the current session.

The commission's equalization proposals, submitted to the government last month (*Railway Age*, March 26, page 43) called for uniform freight rates across Canada as far as is practicable, smoothing out regional differences that have brought protests from the West and the Maritimes for several years.

On other points in the Royal Commission report, Mr. Chevrier told the House:

1. The government has no intention at the moment of changing the "Crow's Nest Pass" freight rates on grain moving in the West, which are held at low levels by a 1925 statute. The commission recommended no change in these at present.

2. The government has not yet had time to consider recommendations for setting up a new capital structure for the Canadian National, aimed at scaling down the company's debt charges.

3. The government has not been able to give any study to recommendations for a new national transportation policy calling

for coordination of all transport agencies under federal jurisdiction.

Mr. Chevrier, answering queries in the House from irate Western wheat area members, said a transport controller to allocate box cars to insure moving grain off western farms by the end of the crop year would not be named now but might be a future necessity. He declared, answering criticisms, that the box car situation had steadily improved, that an unfavorable balance of Canadian box cars in the United States had been reduced by 5,000 cars at April 6, and that this improvement was continuing.

February Accidents

The Interstate Commerce Commission has made public its Bureau of Transport Economics and Statistics' preliminary summary of steam railway accidents for February and this year's first two months. The compilation, which is subject to revision, follows:

Item	Month of Feb.		2 months ended with Feb.	
	1951	1950	1951	1950
Number of train accidents*	952	648	1,980	1,410
Number of accidents resulting in casualties....	48	39	110	74
Number of casualties in train, train-service and nontrain accidents:				
Trespassers:				
Killed	66	56	122	124
Injured	49	58	104	119
Passengers on trains:				
(a) In train accidents*				
Killed	82	30	82	30
Injured	745	231	749	270
(b) In train-service accidents:				
Killed	1	1	1	2
Injured	123	126	248	342
Travelers not on trains:				
Killed	—	2	—	3
Injured	66	54	134	131
Employees on duty:				
Killed	36	24	68	51
Injured	2,014	1,515	4,192	3,170
All other non-trespassers:				
Killed	142	136	307	280
Injured	520	515	1,213	1,012
Total—All classes of persons:				
Killed	327	249	580	490
Injured	3,517	2,499	6,640	5,044

* Train accidents (mostly collisions and derailments) are distinguished from train-service accidents by the fact that the former caused damage of \$275 or more to railway property, in 1930. Beginning January 1, 1931, this minimum was raised to \$300. Only a minor part of the total accidents result in casualties to persons, as noted above.

** Casualties to "Other non-trespassers" happen chiefly at highway grade crossings. Total highway grade-crossing casualties for all classes of persons, including both trespassers and non-trespassers, were as follows:

Persons:	Month of Feb.		2 months ended with Feb.	
	1951	1950	1951	1950
Killed	133	128	288	262
Injured	342	374	850	742

I.C.C. Again Denies P.I.E. Authority To Buy Keeshin

The application of Pacific Intermountain Express for authority to acquire Keeshin Freight Lines, and thereby establish a new transcontinental trucking system, has again been disapproved by the Interstate Commerce Commission. The commission's latest findings, a 9-2 decision, were made upon reconsideration of its November, 1950, order in which it first denied the application. (See *Railway Age* of November 18, 1950, pages 63-64).

"Our action in denying the instant applications was not based solely or even primarily on the adverse effect

News Briefs . . .

. . . The Pennsylvania's new \$5,000,000 warehouse on Liberty avenue between 12th and 16th streets, Pittsburgh, Pa., was formally dedicated on April 3 in ceremonies attended by about 600 guests. On the program were J. A. Appleton, vice-president, and W. W. Patchell, general manager, of the Pennsylvania; Admiral Milo F. Draemel, secretary of forests and waters; Mayor David L. Lawrence; W. F. Trimble, Jr., president, the Trimble Company; and C. B. Wiley, president of the Pitt-Penn Terminal Company, which will operate the warehouse.

. . . The Southern Pacific has announced special service charges, effective May 1, for passengers occupying reserved coach seats on the "Coast Daylights," the "San Joaquin Daylights," the "Sacramento Daylights," the "Shasta Daylights," the "Starlights" and the "Cascades." The charge will be \$1 between terminal points and will be graded at 25 cents, 50 cents and 75 cents for intermediate stations, with a minimum charge of 25 cents. No reduction in the charge will be made for children occupying exclusively a reserved coach seat. One or more children under 5 years of age will pay one special service charge.

. . . New lounge-bedroom cars have been placed in overnight service between Chicago and Detroit by the Grand Trunk Western. The cars each contain eight single bedrooms arranged for occupancy en suite if desired. The eastward car is carried on the "Inter-City Limited"; the westward car on the "LaSalle."

which the proposed unified service might have on the present or future operations of the protesting railroads," the commission said. "We were equally concerned with the effect of such service on the financial stability of the protesting and other motor carriers competing in the Keeshin territory and on their ability to continue providing the public with adequate transportation service."

The operations of the two trucking systems come together at Chicago and St. Louis, Mo., with Keeshin holding operating rights between those points and the eastern seaboard. P.I.E. had proposed to continue the service rendered by the two companies separately and, in addition, to offer interregional and transcontinental service. The two carriers already have arrangements for the interchange of trailers without breaking bulk, but the commission found they are not transporting any substantial amount of traffic in this way.

The type of service now provided by P.I.E. and Keeshin, as separate organizations, "would be changed substantially" by the unified operation, the commission said. Meanwhile, it added,

. . . An award of merit, said to be the first of its kind ever received by any type of transportation service, has been presented to the Southern by Associated Business Publications for the Southern's national advertising campaign inviting industries to "Look Ahead—Look South!" for greater opportunity. The award was based on the manner in which objectives were set forth in the advertising campaign, and results obtained in relation to those objectives. The Southern advertisements, in nationally circulated publications, direct attention to the South as an "industrial opportunity-land." Over the past ten years, at the rate of more than one every working day, a new factory has gone up, an existing industry has been enlarged, or a new distribution warehouse has been erected along the railway's lines. The A.B.P. is an association of independently owned business publications; the contest, the ninth sponsored by it, is designed "to encourage special effort and sharper analysis of the best ways to use all elements of a business paper advertisement."

. . . A daily freight train 79 cars long was required to furnish the Caterpillar Tractor Company, Peoria, Ill., with raw materials and to ship out its finished products during 1950. In tabulating traffic requirements for the past year, Manager E. J. Davis of the company's traffic and order department said that daily rail shipments totaled 3,480 tons—about 30 per cent over the 1949 figure. Trucks moved 831 tons each day. "We also purchased nearly 4,000 rail and air passenger tickets," he said, adding that his department bought 30 per cent more transportation in 1950 than it did in 1949.

the continuance, efficiency and economy of service of protesting and other motor carriers would be adversely affected, with no offsetting advantage accruing to the public.

Commissioner Knudson wrote a separate opinion in which he concurred with the majority findings. However, he raised the question of whether the commission could, without further statutory directive, approve any transcontinental systems of highway carriers without "carrying the legislative intent of both the policy and Part II of the (Interstate Commerce) Act beyond their original intentions."

"I am also disturbed by the implied effect of the applicant's proposal on certain well developed American concepts which I conceive to be in the public interest, relating to 'Anti-Trust' policies and to considerations relating to the preservation of small businesses," Commissioner Knudson said.

He added that unification of P.I.E. and Keeshin could possibly create a system "so powerful in its own right as a transcontinental carrier as to affect the structure of transportation generally

in the area it would serve." Endorsement of this possibility by the I.C.C. would imply that we favor, as a matter of policy, the establishment of competing carriers with the same broad scope of operation, he said. This, he added, may be "venturing into fields uncharted by present legislation."

"Until these basic considerations of policy are determined, I should hesitate to view favorably such proposals as the applicant's, however progressive they may otherwise be," he concluded.

Commissioners Mahaffie and Rogers were the dissenters. The former, who was the sole dissenter in the previous report, did not restate his views. The latter noted that he would have given P.I.E. another hearing to present evidence showing that public necessity required their proposed single-line through service under single ownership.

As this decision was issued by the I.C.C., a petition for reconsideration of another commission action on "long-haul" trucking was filed. In this, the railroads and other groups asked the commission to reconsider its refusal of last February to institute a general investigation of "long-haul" highway transportation. (See *Railway Age* of February 19, 1951, page 33).

H. & M. Would Raise Interstate Fare to 20¢

The Hudson & Manhattan has asked Interstate Commerce Commission authority to increase its present 15-cent interstate local fare by five cents, William Reid, president, told stockholders at the annual meeting in Jersey City, N. J., on April 11. "We expect to have a decision . . . the latter part of the summer," he added.

Mr Reid explained that the H. & M. had been forced to seek the higher fare because of rising costs of labor and material. "Our passengers aren't going to like this increase and the management can't blame them," he went on, "but if they want the Hudson Tubes to continue its service as a private enterprise they must expect it to balance revenues against expenditures"

N. Y. C. Laying Off Thousands of Employees

The New York Central has announced it is being forced to lay off several thousand employees along its lines in 11 eastern states.

A company spokesman explained: "Business volume is off; we are paying heavy wage increases but lack permission to make offsetting rate increases; and we lost approximately \$10,000,000 during the first three months of 1951 principally because of the 'sick strike' of switchmen. Businesses, like families, must keep their expenses in line with their revenues. Wages now compose about 65 per cent of railroad expenses. So, much as we regret the necessity, we must institute

layoffs. We hope they will be temporary, but this depends entirely on the volume of future business."

The spokesman pointed out that "since 1939, prices of materials and supplies which eastern railroads must buy have increased 129 per cent, and wage rates are up more than 130 per cent, whereas freight rates have climbed only about 66 per cent and passenger fares 41 per cent. As a result the railroads, and particularly those of the east, are suffering from the newest inflationary spiral."

New Henderson Petition Set For Hearing April 30

The Interstate Commerce Commission will hold hearings beginning April 30, on the petition filed by Elmer W. Henderson in the case wherein he assailed dining car rules on the Southern. Complainant Henderson contends that the rules which the Southern established following a Supreme Court decision in the case still provide for a difference in treatment solely because of race. (See *Railway Age* of November 25, 1950, page 47.) The new hearings will be held in Washington, D. C., before Examiner Hosmer.

Senate Group Ends Hearing on "Op" Cases

The Senate Committee on Labor and Public Welfare concluded on April 5 the public-hearings phase of its investigation of the failure to settle the current wage and rules disputes between the railroads and those of their employees who are represented by the four train and engine service brotherhoods. The committee's chairman, Senator Murray, Democrat of Montana, indicated that the committee would make an early report on the inquiry.

The hearing's closing session was devoted to a presentation made on behalf of the National Mediation Board by its secretary, Thomas E. Bickers; and further questioning by committee members of D. P. Loomis, chairman of the Association of Western Railways. Mr. Loomis, who is also chairman of the western regional conference committee in the wage cases, was railroad management's spokesman at the hearing, his main presentation having been concluded at the March 28 session (see *Railway Age* of April 2, page 66).

N.M.B. Secretary Bickers presented a review of activities of the board and its predecessor since 1926. Conceding that a "lot of things that have been done were wrong," he insisted that the "mechanics" of the Railway Labor Act are "sound." He also expressed his view that N.M.B.'s work "contributed materially" to "stabilized" labor situation on the railroads during World War II.

Chairman Murdock congratulated Mr. Bickers on the presentation. The senator said he was "impressed" by the secretary. He went on to assert

that N.M.B. was affording an "excellent demonstration of democratic methods of handling problems of this kind." Loss of the board "would be a great misfortune," Mr. Murray added.

Meanwhile, the senator had emphasized that the committee had "no right" to tell labor and management what to do. He suggested that it would be "fine" if they could get together, but explained that the hearing was "to see if there is a legislative remedy."

Ex Parte 175 Surcharges On Grain Rates Authorized

The Interstate Commerce Commission has issued Special Permission No. 49533 which authorizes the railroads to make the Ex Parte 175 freight-rate increases on grain, grain products and by-products effective by means of a two per cent surcharge on freight bills, rather than by direct charges in the existing hundredweight rates. Use of the surcharge method was required by the commission in a previous "special permission" (No. 49462) which was issued April 2 to postpone, from April 4 to April 19, the effective date of the increase on the grain traffic.

That April 2 order, however, did not carry the necessary authority to make the conversion (*Railway Age*, April 9, page 60). Thus, Special Permission No. 49533 was embodied in an April 5 order by Commissioner Splawn. It stipulates that railroads should "first determine the total charges for line-

haul transportation [of the grain traffic] . . . and then increase the amount so determined two per cent."

The increases involved are among those approved by the commission in its March 12 report on the interim-relief phase of the Ex Parte 175 case. They became effective generally on April 4.

St. Lawrence Seaway Is Unnecessary, Prince Says

Ore deposits in Labrador will be developed whether or not the St. Lawrence seaway is constructed, and existing transport facilities can handle all the ore that present plans call for. This view was expressed April 2 by Gregory S. Prince, assistant general counsel, Association of American Railroads, when he appeared before the House Public Works Committee in opposition to the seaway project.

"There can be no question that from the standpoint of the expenditure of money, critical materials and manpower, it would be far cheaper to handle Labrador ore by existing modes of transport than to construct the proposed waterway," Mr. Prince declared. He was the first of about 90 witnesses who have asked the committee for an opportunity to appear in opposition to the seaway project.

Construction of the waterway at this time is not necessary for national defense and would be detrimental to the national economy, Mr. Prince said. He



BALDWIN ENTERTAINS A.A.R. DIESEL PARTS COMMITTEE.—With E. F. Sheehan, renewal parts manager, acting as moderator, the Baldwin-Lima-Hamilton Corporation recently conducted a meeting of Committee 42, Diesel Parts, of the Purchases & Stores Division of the Association of American Railroads at the Baldwin plant, Eddystone, Pa. Among those present (left to right) were J. Lembach, chairman of Committee 42, Florida East Coast; I. G. Shapiro, New York, New Haven & Hartford; H. V. Schlitz, Chicago, Burlington & Quincy; Paul LaFrance, B-L-H engineering department; A. L. Goranson, Chicago, Rock Island & Pacific; A. G. Bohorofoush, Southern System; J. N. Delaney, B-L-H diesel

renewal parts department; Mr. Sheehan; C. A. Brown, B-L-H diesel renewal parts department; C. E. Schnars, Pennsylvania; J. H. Ogle, B-L-H diesel renewal parts department; W. M. Hughes, Baltimore & Ohio; T. Cummings, B-L-H diesel renewal parts department; T. W. Greenawalt, Missouri-Kansas-Texas; H. J. Healy, Louisville & Nashville; C. J. Kubler, Kansas City Southern; G. Lawson, Canadian Pacific; L. H. Haynes, Seaboard Air Line; H. R. Carroll, Chicago & North Western; E. F. DeLisle, New York Central System; and W. A. Carney, Boston & Maine. R. B. Crean, vice-president, apparatus sales, of B-L-H, gave the welcoming address, while Ralph Johnson and Paul LaFrance, both of B-L-H, also spoke



EDWARD O. BOSHELL, right, chairman of the board and president of the Union Switch & Signal Co., receives a Marshall Plan Certificate of Cooperation from John V. Murrin, left, president of council, borough of Swissvale, Pa., at ceremonies held on April 2 at the plant of Union Switch. Herbert A. May, center, senior vice-president of Union

Switch, looks on. The certificate, signed by William C. Foster, Economic Cooperation Administrator, was given in recognition of technical aid and assistance given by Union Switch to groups of experts from Western European countries, visiting the United States under auspices of the E.C.A. of the Marshall Plan

added that a 30-year reserve of iron ore still exists in the Mesabi Range, and maintained that from a national defense standpoint the nation would be better off not to rely on ore sources outside its own borders.

Commenting on the cost of the seaway project, Mr. Prince told the committee the money could be better used elsewhere at a time "when we are literally scraping the bottom of the barrel for sufficient funds to do the things that are truly urgently required." He said expenditures for the project would have an inflationary effect and would add to the tax burden.

Mr. Prince went on to say the project would not be self-liquidating because traffic estimates on which tolls must be based are unrealistic and in fact in excess of the claimed capacity of the project. He also called attention to the impression that the project will be on a 50-50 basis with Canada.

"Actually, this project is not on a 50-50 basis and can be considered to be so only on the theory of one horse and one rabbit," he said. "Deducting the cost of the power plant for both the United States and Canada, the cost of the remaining work for the navigation project would be approximately \$59,000,000 for Canada and \$374,000,000 for the United States. In other words, for the new navigation project, the United States would pay about six and one-third times the amount Canada would pay."

Mr. Prince also spoke of the vulnerability of the seaway in the event of war, and said attempts to defend it would be costly and, in all probability, ineffectual. He said it could be disabled for long periods by air action or sabotage, whereas the four alternative rail routes from Montreal,

Canada, could not be knocked out without sustained air bombardment day in and day out, "the type of action no foreseeable enemy would be capable of."

The testimony and questioning of Mr. Prince continued through April 6. At subsequent hearings, the committee heard Willis W. Bradley, representing the Pacific Steamship Company, and Vice Admiral C. F. Bogan, both of whom opposed the waterway project. Major General John F. Curry of the Air Force testified April 11 on the vulnerability of the seaway to air attack.

New York RRs Ordered to Display Warning Boards

Railroads operating in New York state have been ordered by the Public Service Commission to erect "slow speed" and "resume speed" warning boards at all locations where temporary speed restrictions are necessary because of construction in progress or any other reasons. The warning boards are to be installed in addition to all other normal operating orders and practices and must be maintained during the restricted speed period.

Freight Car Loadings

Loadings of revenue freight in the week ended April 7 totaled 739,523 cars, the Association of American Railroads announced on April 12. This was a decrease of 15,912 cars, or 2.1 per cent, compared with the previous week; an increase of 39,474 cars, or 5.6 per cent, compared with the corresponding week last year; and a decrease of 18,261 cars, or 2.4 per cent,

compared with the equivalent 1949 week.

Loadings of revenue freight for the week ended March 31 totaled 755,435 cars; the summary for that week, as compiled by the Car Service Division, A.A.R., follows:

REVENUE FREIGHT CAR LOADINGS For the week ended Saturday, March 31			
District	1951	1950	1949
Eastern	142,581	136,091	136,010
Allegheny	157,885	151,976	153,781
Poconchos	59,586	64,102	53,831
Southern	132,575	129,256	118,462
Northwestern	82,473	70,910	104,056
Central Western	121,623	110,194	105,549
Southwestern	58,712	57,875	53,934
Total Western Districts	262,808	238,979	263,539
Total All Roads	755,435	720,404	725,623
Commodities:			
Grain and grain products	48,099	40,284	40,003
Livestock	6,876	7,381	8,260
Coal	134,362	169,538	137,399
Coke	15,970	13,032	13,837
Forest products	46,153	38,968	34,113
Ore	19,816	13,278	45,936
Merchandise			
I.C.I.	82,925	86,459	96,758
Miscellaneous	401,234	351,464	349,317
March 31	755,435	720,404	725,623
March 24	748,804	717,259	596,329
March 17	745,365	725,534	607,922
March 10	749,627	707,911	709,326
March 3	785,867	574,449	705,552

Cumulative total
13 weeks 9,494,206 8,124,005 8,956,311

In Canada.—Carloadings for the week ended March 31 totaled 79,242 cars, compared with 67,413 cars for the previous week, and 72,836 cars for the corresponding week last year, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
March 31, 1951	79,242	37,869
April 1, 1950	72,836	35,392
Cumulative totals for Canada:		
March 31, 1951	961,972	471,270
April 1, 1950	894,584	385,170

Nine Railroads Get Amortization Certificates

Nine railroads were among transportation agencies which recently received certificates of necessity authorizing accelerated amortization of facilities for tax purposes. The certificates were issued by the Defense Production Administration upon recommendation of the Defense Transport Administration.

The nine railroads and the amounts and projects involved in each instance were as follows:

Atlantic Coast Line, \$23,723,333 for diesel-electric locomotives and passenger cars; Kansas City Southern, \$3,375,000 for diesel-electric locomotives; New York, Chicago & St. Louis, \$2,452,007 for freight cars; South Buffalo, \$995,000 for diesel-electric locomotives and bridge, office building and yard-track construction; Patapsco & Back Rivers, \$823,000 for diesel-electric locomotives, maintenance equipment, and tracks; Seaboard Air Line, \$514,500 for shop facilities and track construction; Steelton & Highspire, \$275,000 for diesel-electric locomotives; Philadelphia, Bethlehem & New England, \$200,000 for diesel-electric locomotives; and Georgia, (Continued on page 59)



G-E FLOODLIGHTS SPEED YARD OPERATIONS

Installation in the Nickel Plate's principal Cleveland yards of four floodlight towers carrying a total of 15 G-E 1,000-watt lamps has led to

- increased movement of cars in the yard at night,
- increased security from thefts,
- increased safety to personnel because enginemen can see switchmen more readily.

Ask your G-E representative to give you the details about what General Electric yard lighting can do for *your* operations. General Electric Company, Schenectady 5, New York.



Shop Motors and Controls • Shop Testing Equipment •
Undercar Power Plants • Lighting Systems • Electric
Heaters • Signal Power Systems • Power Distribution
Systems • Electric and Diesel-Electric Locomotives

GENERAL  ELECTRIC

152-18

FREIGHT MOVED ON PASSENGER SCHEDULES WINS TONNAGE BACK TO THE RAILS

The Frisco's doing it! Nightly, between St. Louis and Tulsa, Alco-GE locomotives are hauling Frisco freight on schedules that approximate the fastest passenger schedules for the run.

This type of service—*competitive service*—is the encouragement industry needs to ship by rail. Fast schedules, combined with such elements as efficient materials handling, "package" cars, up-to-date equipment are the life blood of railroad progress.

Modern, dependable, diesel-electrics are the insurance today against the demands or emergencies of tomorrow. And Alco-GE diesel-electrics can provide an extra margin of power and dependability in your operations.



**AMERICAN LOCOMOTIVE
and
GENERAL ELECTRIC**

113-248







**WHERE THAT
EXTRA**

1 1/2¢

per day

pays off!

The premium you pay for WAUGHMAT TWIN-CUSHION premium car and lading protection is estimated to be less than 1 1/2¢ per day per car . . . a small charge for the car and lading insurance provided by Waughmat Twin-Cushions.

LADING damage in transit is the rare exception when the cars are cushioned against longitudinal shocks with WAUGHMAT TWIN-CUSHIONS. This fact has been convincingly demonstrated in millions of miles of symbol and stock-car service and in coast to coast tests. WAUGHMAT TWIN-CUSHIONS, comprised of a series of rubber plates, have no solid point. Twin-Cushions take the bite out of impact, provide protection to cars and lading against most of the excessive impacts of switching and transit.

Reducing the force and frequency of longitudinal shocks, Twin-Cushions lessen component lateral shocks and *halve* those com-

ponent vertical vibrations that are most destructive of lading.

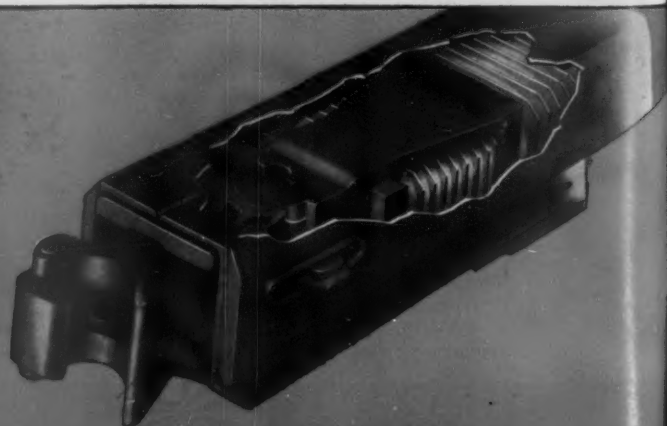
Providing velvet-smooth cushioning in pull and in buff, WAUGHMAT TWIN-CUSHIONS allow the absolute minimum of uncontrolled movement*,...added lading protection when cars are rolling. Trains start and roll more smoothly with less surging when cars are Twin-Cushion equipped.

To reduce lading damage, to extend the useful life of cars for years, to protect them against frame-wracking, sill cracking impacts and much lesser damage, specify Double Action WAUGHMAT TWIN-CUSHIONS for new or existing cars.

*only the play between coupler connections.

WAUGHMAT
Twin Cushions

TRADE MARK REGISTERED



Car Surpluses and Shortages

Average daily freight car surpluses and shortages for the week ended April 7 were announced by the Association of American Railroads on April 12 as follows:

	Surplus	Shortage
Plain Box	0	15,588
Auto Box	9	193
Total Box	9	15,781
Gondola	60	2,766
Hopper	9,190	872
Covered Hopper	0	38
Stock	806	78
Flat	0	1,250
Refrigerator	3,141	598
Other	230	39
	13,436	21,422

(Continued from page 54)

Florida & Alabama, \$93,572 for track construction.

Other recent certificates included four issued to the Union Tank Car Company to cover the write-off of \$13,289,000 spent for construction of 1,750 tank cars. Certificates have also been issued to additional transportation agencies as follows:

American Barge Lines Company, Jeffersonville, Ind., \$1,513,609 for diesel tug and barge construction; Ingram Products Company, Nashville, Tenn., \$1,244,000 for barge and towboat construction; Rockport Steamship Company, Sheboygan, Wis., \$1,000,000 for repowering limestone carrier; Genesee Transportation Company, Waukesha, Wis., \$800,000 for tugboat and barge construction; Cargo Carriers Corporation, Minneapolis, Minn., \$700,000 for tugboat-barge construction; B.&M. Towing Company, Houston, Tex., \$569,882 for towboat and tank barge construction; Sheridan Towing Company, Philadelphia, Pa., \$550,000 for diesel tugboat construction; Shipowners & Merchants Towboat Co., San Francisco, Cal., \$500,000 for tugboat construction; Petco Corporation, Milwaukee, Wis., \$350,000 for tugboat construction; Great Lakes Steamship Company, Cleveland, Ohio, \$216,500 for steamship reconstruction; McAllister Bros., Inc., New York, \$140,375 for diesel tugboat construction; and A. P. Ward & Son, Pensacola, Fla., \$140,000 for tugboat construction.

Steel Industry Fears Shortage of Scrap

The steel industry is greatly concerned over a possible shortage of iron and steel scrap; stocks are currently about one-half of a safe working inventory, and steel consumers face a critical situation unless collection of scrap can be stepped up to meet the demands of current output plus the increased tonnage of the steel industry's expansion program.

This warning has come from Vice-President C. A. Ilgenfritz of the United States Steel Company, and also vice-chairman of the American Iron & Steel Institute's scrap committee, who said there may be a potential scrap deficit of between five and seven million tons between now and the end of 1952, when

it is expected that the capacity of the steel industry will reach 117.5 million tons. Mr. Ilgenfritz pointed out that this is an increase of 18 million tons in steel capacity in three years from the start of 1950 and that much additional scrap will be needed to attain the goal. Reserves accumulated following World War II have virtually been depleted.

"The management of every industry can be of great assistance by immediately making a survey of all of its plants and promptly scrapping everything that is worn out or obsolete, such as equipment, iron and steel parts and old steel structures," Mr. Ilgenfritz added.

Rail-Highway Competition Called Major Problem

Competition between highway transportation and railway service is the major national transportation problem of this decade, Donald Gordon, chairman and president of the Canadian National told the Canadian Club of Montreal, Que., in a recent luncheon address on the "Crisis in Transportation."

Because intra-provincial highway transportation came within jurisdiction of the ten different provincial governments, the Royal Commission on Transportation did not directly explore the problem of road-rail competition, Mr. Gordon said, and he earnestly hoped that "the range of public discussion stimulated by the report will be broadened to take account of the very important facts which lay outside the Commission's terms of reference." Advising against mutual recriminations,

he said he did not believe the narrow interest of any group, "whether it be a transportation agency or a sectional coalition," should stand in the way of "an objective and dispassionate analysis of common problems in a field so vital to the progress of the whole economy."

From the standpoint of the Canadian public as a whole, the railroad president said it did not matter whether the nation's freight was carried by the railroads or by highway carriers—"provided that shippers can get the quality of service they want at the lowest possible expense to themselves and to the public, and provided that the requirements of national defense are obtained at the minimum cost."

He reminded his audience, however, that "the Canadian railways are performing a physical job of transportation which highway carriers could not possibly duplicate, carrying something like 150 million tons of freight annually at an average rate per ton-mile of less than one cent and a half—at which level no trucker in North America could survive."

State Forbids I.C. Suburban Fare Increase

The Illinois Commerce Commission has turned down a petition filed by the Illinois Central for reconsideration of the commission's decision denying the road an increase in its suburban fares. The road had asked for increases which ranged from 15 to 50 per cent and elimination of present weekly and monthly commutation tickets in favor



THE CUMMINS ENGINE COMPANY has spent more than \$6,000,000 for additional manufacturing facilities and for modernizing its Columbus, Ind., plant while increasing its production capacity for diesel engines by 60 per cent in a period of five years. The new

stores center building (upper center in the photograph), is nearing completion. Its 92,000 sq. ft. of floor space and an extension of 9,600 sq. ft. to the 19-month old DD fuel pump building (left center), will increase the size of the plant by over 30 per cent

ANNUAL REPORT—1950

THE NEW YORK CENTRAL RAILROAD COMPANY

The year was 1826. John Quincy Adams was the nation's sixth president, and nine of every ten Americans were making their living from the soil.

Only three years before, James Monroe had proclaimed that the American continents were no longer "subjects for future colonization by any European powers." The Monroe Doctrine was issued after Russia tried to prohibit navigation or fishing along North America's northwest coast.

The Erie Canal was one year old, but you needed ten days by passenger packet to travel from Buffalo to Albany, and down the Hudson to New York City. George Stephenson's Locomotion No. 1 had pulled its first train in England the previous fall.

A railroad is born

That was the situation when the New York State legislature authorized creation of the Mohawk and Hudson Railroad Company "for the purpose of constructing a single or double rail road or way betwixt the Mohawk and Hudson rivers." It was born April 17, 1826, with \$300,000 of private capital.

One August day five years later the historic, wood-burning DeWitt Clinton locomotive, a brave 11½ feet long, chuffed the hilly 16 miles between Albany and Schenectady, N. Y., with three bulging coaches of dignitaries. The Mohawk and Hudson—original predecessor of the hundreds of early-day railroads which became today's 11,000-mile New York Central System—was in operation.

Sizeable advances are made

Time, moving inexorably and writing indelibly, has advanced 125 years since the Central's founding. Where do we stand now, as we begin the second half of the progress-filled but vexing Twentieth Century?

Short range and long range, we have made and are making substantial advances. We completed, in 1950, another year of measurable progress. Our net income, at \$18,315,170, or \$2.84 per share, nearly doubled that of 1949. Even so, it represented an inadequate return of only 2.3 per cent of total revenues, while our net railway operating income was reflecting a return of only 2.1 per cent on depreciated investment.

The 1950 earnings, which were the highest since war-torn 1945, enabled your board of directors to declare a dividend of \$1.00 a share, paid last Dec. 27 to holders of record Nov. 24.

New equipment barely affects debt

We continued to receive and order additional diesel-electric locomotives and cars needed to meet our traffic-carrying responsibilities in the national emergency, and to achieve even greater efficiency. Thus dieselized and electrified locomotive mileage rose to 34.2 per cent, from 28.7 per cent in 1949.

Although the new equipment necessarily raised our debt, the 1950 increase of \$2,743,047, or 0.3 per cent, was relatively modest. The Central incurred \$29,968,800 of new debt. This was almost offset by retirement of \$25,078,253 of older Central debt, including amounts due New York State in grade crossing eliminations, and \$2,147,500 of older debt of lessor companies.

Higher costs require higher rates

Various demands were made by union leaders for wage increases and rules changes. One case led the federal government to seize control of the nation's railroads last Aug. 27. They have remained under U. S. Army authority since then, with a number of railroad presidents serving as colonels in charge of regions. Settlement of these cases obviously will mean higher wage costs for 1951. Meanwhile, there also occurred sharp jumps in the prices of materials and supplies which are essential to railroad operations.

Confronted with increased costs, the railroads, after holding the line without new general rate or fare increases since 1949, were obliged to seek further freight rate increases. The Interstate Commerce Commission authorized interim raises of about 4 per cent in the east. Further favorable action is essential to our vital role in national defense.

Present, future prospects good

There are many uncertainties, but we do seem assured of a relatively high business volume. Also encouraging are the movements in many states for proportionate-use highway taxes, which would have the effect of curtailing the huge subsidies on which many of our freight-hauling competitors have been fattening, to our detriment.

All things considered, I look for the Central to continue to demonstrate in 1951 and in subsequent years the substantial progress shown in 1950.

G. METZMAN,
President

March 14, 1951

For copy of Annual Report containing Comparative Income Account, Balance Sheet, etc., address Public Relations Dept., New York Central System, 466 Lexington Avenue, New York 17, N. Y.

(Advertisement)

of 10, 25 and "twin 25" (or 50) ride tickets. The commission also denied the road's request for a rehearing on the case.

This double denial opens the way for the road to appeal the matter to the circuit court. The court had previously turned down an appeal by the I.C. on the grounds that not all of the processes of law before the Illinois commission had been exhausted.

New Haven Steam-Operated Train Miles Reduced to 2%

Approximately 98 per cent of the New York, New Haven & Hartford's train miles are now operated by diesel or electric power and 2 per cent by steam, Frederic C. Dumaine, chairman and president, said in the road's recently released annual report for 1950. Increased freight traffic during the year prevented complete elimination of steam power, Mr. Dumaine added. The more than 1,300 steam locomotives once operated by the New Haven have been reduced to 24.

Fire Damages B. & O. Bridge at Harpers Ferry

Fire partially destroyed the Baltimore & Ohio's main Potomac River bridge at Harpers Ferry, W. Va., on the night of April 11. The fire forced the road temporarily to route traffic over branch lines to a connection with the Western Maryland at Hagerstown, Md., then over the latter road between Hagerstown and Cherry Run, W. Va. Meanwhile, emergency crews rushed to complete a quarter-mile connecting track which would permit the B.&O. to use its other bridge at Harpers Ferry. Traffic over this detour was expected to begin late April 12.

Railroad officials at the scene said the fire apparently was started by sparks from a Mallet locomotive which crossed the bridge shortly before the blaze was discovered. The bridge decking of treated timber was burned out, but the amount of structural damage had not been determined as this issue went to press.

Waybill Studies

Additional waybill studies have been issued by the Bureau of Transport Economics and Statistics of the Interstate Commerce Commission. They are Statement No. 517, Quarterly Seasonal Comparisons of Carloads, Tons per Car, Length of Haul (Short-line), and Revenue per Hundredweight, by Commodity Classes—Terminations in 1947, 1948 and 1949; Statement No. 5115, Distribution of Petroleum Products by Petroleum Administration Districts—Terminations in Third Quarter, 1950; Statement No. 519, State-to-State Distribution of Traffic and Revenue in the Products of Forests Group—Terminations in the Year 1949; Statement No. 5110, State-to-



JOE FOUNTAIN (left), of the Canadian National, presenting a British Columbia hand-carved totem pole to Robert Q. Lewis, radio and television comedian. The pole, made by Ellen Neel, celebrated Indian carver, was presented on behalf of the Vancouver, B. C., Tourist Association during Mr. Lewis's television program "The Show Goes On" on March 29

State Distribution of Traffic and Revenue in the Manufactures and Miscellaneous and Forwarder Groups—Terminations in the Year 1949; Statement No. 5111, Distribution of Average Revenue per Hundredweight and of Proportion of Carloads by Commodity Class and Length of Haul—Mileage Blocks—Terminations in 1949; Statement No. 5116, Quarterly Comparisons of Traffic and Revenue by Commodity Classes—Terminations in Third Quarter of 1950, 1949, 1948, and 1947; and Statement No. 5117, Territorial Distribution of Traffic and Revenue by Commodity Groups—Terminations in Third Quarter of 1950.

Better Manpower for Better Railroading

"I sincerely doubt whether our highly organized, highly coordinated modern railroads, which demand efficiency and teamwork from so many different individuals, could be properly run without careful medical supervision of their personnel. Because much of your work is done behind the scenes. . . I'm going to sing your praises. It is an easy thing to do because the records point out what you have contributed to safer railroading." Thus did John P. Kiley, president of the Chicago, Milwaukee, St. Paul & Pacific, highlight the one-day annual meeting of the Medical & Surgical Section of the Association of American Railroads, held at Chicago on April 2.

Mr. Kiley told the doctors that while all railroads are "very prone to emphasize mechanical improvements" for their increased efficiency, they are equally prone to forget one "all-important element—better manpower."

The 50 doctors attending the meeting participated in discussion of the report of the Disability & Rehabilitation Committee, headed by Dr. J. K. Stack of the Chicago & North Western, which di-

gested over 50 topics presented at previous meetings of the section and offered a summary of up-to-date recommendations or comments on each. Among these topics were dining car employee and food handlers instructions; glasses and goggles and use of tinted lenses; manfailure; special diets in dining cars; possible effects of weed killing compounds on weed control machine operators; injured employees, and "reportable accident" records. The report will become the basis for further coordinating medical principles and practices of all member roads.

Dr. Robert H. Graham, director of the department of sanitation & surgery of the Pullman Company, gave a report on railway sanitation and, in particular, the question of human waste disposal from passenger cars. There is no evidence, he said, that human waste from passing trains has ever caused an epidemic; on an average, it amounts to less than one ounce per trackmile per year.

Dr. T. L. Hansen, chief surgeon of the Chicago, Rock Island & Pacific, was elected chairman of the section, and Dr. A. M. W. Hursh, chief medical examiner of the Pennsylvania, vice-chairman.

Transport Session Planned For U.S. Chamber Meeting

A roundtable luncheon session on "Transportation Mobilization" will be among proceedings of the annual meeting of the Chamber of Commerce of the United States, which will be held from April 30 through May 2 in Washington, D. C. The transport session will be held May 1 at the Statler Hotel.

The principal speaker will be D. W. Rentzel, whose appointment as under secretary of commerce for transportation is pending before the Senate. There will also be a panel discussion by representatives of the various agencies of transport. The moderator will be the president of the National Industrial Traffic League—A. G. Anderson, general traffic manager of Socony-Vacuum Oil Company.

ORGANIZATIONS

Smoke Association to Meet May 6-10 at Roanoke, Va.

The Air Pollution & Smoke Prevention Association of America will hold its 44th annual meeting at the Roanoke Hotel, Roanoke, Va., May 6-10. Sessions will be devoted to equipment manufacturers, coal industries, chemical industries, railroads, steam power plants, etc. At the railroad session, which will begin at 2 p.m., May 9, S. E. Back, instructor, Pennsylvania Instruction School, will talk on "Ex- (Continued on page 64)



Model 10 design has been imitated, but Model 10 performance never duplicated.

Write for Bulletin
G18—RA5

Wherever you go—wherever a volume of high speed traffic flows over an intersection of rail and highway—there you'll be likely to find Model 10 Automatic Signals faithfully performing their life-saving duty.

The widespread acceptance of these signals by nearly a hundred railroads, during a period of just fourteen years, can be explained in two words: **OUTSTANDING PERFORMANCE.**

Outstanding performance—24 hours a day, at thousands of hazardous crossings—has built for Model 10 signals a safety record unapproached by that of any other grade crossing protective device. **Outstanding performance** has earned for Model 10's alone the Certificate of Merit awarded by the New York Museum of Science and Industry. **Outstanding performance**—recognized by men determined to see grade crossing accidents eliminated—is the reason you find Model 10's wherever you go.

U. S. Pat. Nos. 2,137,196; 2,362,710. 2,372,579. Pat'd in Canada 6-27-29



Model 10 Signals began their remarkable contribution to grade crossing safety in June, 1936, when the first Model 10's ever used were installed at Harvey, Illinois. During the five years preceding this installation, there were 31 fatalities at railroad-highway crossings in Harvey—14 of the deaths occurring at this crossing alone. Since Model 10's were installed here, **NOT A SINGLE ACCIDENT HAS OCCURRED.** Since Model 10's have been installed at thousands of dangerous railroad-highway crossings, **NOT ONE FATALITY** has ever occurred as a result of operation failure.

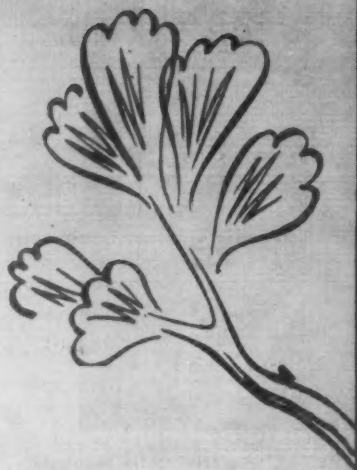
Model 10




AUTOMATIC GRADE CROSSING SIGNALS
PRODUCT OF
WESTERN RAILROAD SUPPLY COMPANY
CHICAGO 8, ILLINOIS

LEADING MANUFACTURER OF GRADE
CROSSING SAFETY DEVICES—MAKER
OF RAILWAY SIGNALING ACCESSORIES





for
extra-protection of your
"extra-fare" freight... **SCULLIN**  **TRUCKS**

the smoothest
traffic-builder
between
LCL
and your
rails



NEW YORK
CHICAGO
CLEVELAND
BALTIMORE
RICHMOND, VA.

SCULLIN STEEL CO. SAINT LOUIS 10, MISSOURI

(Continued from page 61)

perience of a Smoke Inspector"; W. W. Matzke, assistant to chief mechanical officer, Chicago & North Western, will discuss smoke prevention on his road; and R. G. Norton, supervisor of smoke abatement, Norfolk & Western, will present a paper on "Why and How Railroads Should Participate in Smoke Abatement Programs."

American U. to Hold Fourth Foreign Transport Institute

The American University, Washington, D. C., will conduct its fourth Foreign Transportation Institute from May 1 through May 17. Applications for admission and requests for information may be sent to Dr. L. M. Homberger, director of the institute, in care of the American University School of Social Sciences and Public Affairs, 1901 F street, N.W., Washington 6, D. C. Tuition is \$90.

Railroad men who will participate in the course include Neil R. McCormick, assistant general freight agent of the New York Central, and G. C. Randall, manager of port traffic of the Association of American Railroads.

The National Association of Railroad Women will hold a special, as well as regional, meeting in Chicago, on April 28, at the Drake Hotel.

New York University, in cooperation with the New York State Civil Defense Commission, will hold a series of conferences on "Current Problems of Industrial and Institutional Plant Protection," on May 22, 23 and 24, at the university's Washington Square Center.

The Traffic Club of Chicago elected the following officers at its 44th annual meeting: Arthur B. Murphy, general freight agent, Chicago, Rock Island & Pacific, president; Clayton F. Devine, traffic director, Silica Sand Traffic Association of Illinois, first vice-president; David S. Mackie, freight traffic manager, New York Central, second vice-president; Evan W. Girton, general traffic manager, Wilson & Co., third vice-president; Otis A. Green, western freight traffic manager, United States Lines who has served as secretary of the club for the past six years, treasurer; and Walter N. Saaby, director of traffic, Victor Chemical Works, secretary. Retiring president Lee R. Cowles, traffic director for the Standard Oil Company of Indiana, has been made a member of the board of directors.

The Northwest Shippers Advisory Board will hold its next meeting in the Hotel Winona, Winona, Minn., on April 25. E. W. Coughlin, of the Car Service Division, Association of American Railroads, will report on the national transportation picture. F. M. Kaar, secretary of the wholesale and trade promotion department of the

St. Paul Association of Commerce, will be guest speaker at a luncheon session to be held jointly with the Traffic Club of Winona.

The New York Railroad Club will hold its next meeting on April 19, at 8 p.m., in the auditorium—Engineering Societies building, 33 West 39th street. W. Wendell Reuss, partner in the firm of McLaughlin, Reuss & Co., will speak on "Railroad Credit and Operations" and will illustrate his talk with slides of statistics.

The Traffic Club of New York will hold a Father and Son Dinner at the Biltmore Hotel on April 24.

SUPPLY TRADE

General American 1950 Net Was \$5,841,930

Gross income of the General American Transportation Corporation and subsidiaries last year totaled \$87,686,493, including \$52,254,043 from services and \$35,432,450 from manufacturing, according to the recently released annual report. Gross income in 1949 included \$46,979,952 from services and \$62,944,194 from manufacturing. Net income in 1950 was \$5,841,930, compared with \$6,541,806.

Pressed Steel Car Sales Were \$16,828,137

Sales of Pressed Steel Car Company and subsidiaries in 1950 totaled \$16,828,137, compared with \$41,279,936 in the preceding year, according to the recently released annual report. Consolidated net loss last year was \$900,988. John I. Snyder, Jr., president, said in the report that estimated earnings for the first quarter of 1951 will approximate \$500,000, compared with a loss of \$422,468 in the corresponding 1950 quarter. The sharp decline in sales in 1950 he said, was due principally to lack of orders for new freight cars during most of the year.

The Cleco division of the Reed Roller Bit Company has moved its Philadelphia, Pa., office to 5200 North Fifth street.

Paul Reeves, formerly advertising manager of the Timken Roller Bearing Company, has been appointed director of sales. Mr. Reeves joined Timken in 1929 and, after completing its engineering training course, worked as sales engineer in the Chicago office. He subsequently was transferred to the San Francisco, Cal., branch office where he was appointed industrial district manager. In 1940 he was appointed sales promotion manager, with headquarters at Canton, Ohio, and during



John G. Patten, western traffic manager for the New York, New Haven & Hartford at Chicago since 1947, who has been appointed assistant general traffic manager of the Kaiser Aluminum Chemical Corp., with headquarters at Oakland, Cal. Mr. Patten had been with the New Haven for 17 years in various traffic department capacities in the railroad's New York, Boston, Mass., and Chicago offices

World War II was in charge of handling contracts between the company and the government. Mr. Reeves was appointed advertising manager in 1943.

Lester M. Sears, founder and president of the Towmotor Corporation, has been elected chairman of the board of directors, and C. Edgar Smith, executive vice-president, has been elected president. Robert L. Fairbank, formerly with the Firestone Tire & Rubber Co., has joined Towmotor as sales manager.

Mr. Sears, who, with his father, established the company in 1919, will re-



Lester M. Sears

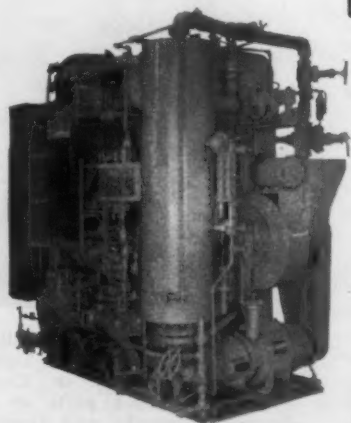
main active in the management. He was born in Nebraska in 1888 and was graduated from the University of Minnesota in 1912. He joined the Peerless Motor Car Corporation at Cleveland in 1916, and during World War I served with the Emergency

1950 Highlights On Steam Generators

5 Well Known Public Utilities
Ordered 9 Large High - pressure
Controlled Recirculation Steam
Generators.

It is in this field . . . the generation
of power on a large scale . . . that
generator design and construction
are evaluated most critically and
exhaustively.

The Trend Is Towards . . . Controlled
Recirculation. Be sure you specify it
for your new steam generators for
train heating. Elesco and Controlled
Recirculation are Synonymous.



Elesco - the Ideal Train Heating Generator

THE
SUPERHEATER CO., INC.

Division of
COMBUSTION ENGINEERING-SUPERHEATER, INC.

200 Madison Ave., NEW YORK 16

Bankers Building, CHICAGO 3

Montreal, Canada, THE SUPERHEATER COMPANY, Ltd.

Representing AMERICAN THROTTLE COMPANY, INC.

Superheaters • Pyrometers • Injectors • Steam Driers • Feedwater Heaters • Steam Generators • Oil Separators • Welded Boiler Shells • Throttles

Fleet Corporation on special assignments from Secretary of War Newton D. Baker.

Mr. Smith was born in Buffalo, N. Y., in 1904 and attended Nichols School, Staunton Military Academy and the University of Michigan. He joined Towmotor as sales manager in 1941 and was advanced to vice-presi-



C. Edgar Smith

dent in 1943 and executive vice-president in 1947. During World War II he was a member of the materials handling industry advisory committee of the War Production Board.

Mr. Fairbank was born in Cleveland, Ohio, in 1912. He joined Firestone



Robert L. Fairbank

after his graduation from Dartmouth College in 1933, and worked successively as salesman, manager of retail stores, and district manager at Cleveland, holding the latter position since 1945.

The Pennsylvania Salt Manufacturing Company has formed a new sales department, the maintenance chemicals department, to be headed by **Horace F. McIntyre**. The new department has been assigned all sales and service work on Pennsalt products for maintenance, differentiated from products used in manufacturing processes, and in this connection has been assigned specialties for maintenance of

railroad equipment, formerly handled by the special chemicals department. Mr. McIntyre joined Pennsalt in 1943 and has worked successively as a sales



Horace F. McIntyre

representative, district sales manager and product supervisor in the special chemicals department.

Harry G. Andersen, district sales engineer of the **Link-Belt Company** at Milwaukee, Wis., has been transferred to Birmingham, Ala., as district



Harry G. Andersen

manager, succeeding **J. T. Bell, Jr.**, who has been called back into the service of the U. S. Army, Corps of Engineers. Educated at Northwestern University, Illinois Institute of Technology and the University of Wisconsin, Mr. Andersen started with Link-Belt in 1937 at the company's Pershing Road plant, Chicago, where he served in various capacities in the engineering department and Chicago district sales. He was transferred to Milwaukee in 1948.

Mark W. Cresap, Jr., a co-founder of the New York and Chicago management consultant firm of Cresap, McCormick & Paget, has joined the **Westinghouse Electric Corporation**, Pittsburgh, Pa., as a vice-president and assistant to president **Gwilym A.** (Continued on page 71)



The Pettibone Mulliken Corporation has announced promotion of **W. A. Blackford** (above) to Western district sales manager, railroad division. He has been associated with the company on



the west coast since 1947. **E. H. Sockwell** (below) has been appointed Eastern district sales manager, railroad division. Mr. Sockwell has been with the company since 1947 and formerly served as Eastern district representative



Joseph T. Holleman, who will head the new office opened by the Signode Steel Strapping Company in Chattanooga, Tenn., to service parts of Alabama, Georgia, Kentucky and Tennessee. Mr. Holleman attended the United States Naval Academy during World War II, where he received engineering training, and recently completed an intensive training program sponsored by Signode



It won't run a temperature
when it's
HARRISON COOLED

The majority of Diesel locomotives built today are equipped with Harrison radiators and oil coolers. Effective jacket-water cooling and the maintenance of oil temperatures within the required range are assured. Harrison cooling helps *minimize* the number and the cost of overhauls . . . it is an important factor in cutting the *round-house* time and raising the *availability* time of Diesel locomotives.

HARRISON

DIESEL RADIATORS AND OIL COOLERS

HARRISON RADIATOR DIVISION, GENERAL MOTORS CORPORATION, LOCKPORT, N. Y.

You get more than a "New Part" Guarantee

When you use Electro-Motive's factory-rebuilding service, you get more than a full guarantee of new-part performance.

You are assured that every design improvement made in the assembly since it was built is incorporated during the rebuilding process.

Remanufacture of an engine crankcase built prior to 1940, for example, involves as many as 12 separate modifications and improvements which are included in current design and in all Electro-Motive rebuilds.

This "up-dating" of old equipment is one of many reasons why it pays to send traction motors, generators, engines, injectors and other com-

ponents to Electro-Motive for rebuilding.

Production-type methods with modern tooling and techniques—plus efficiencies made possible by high volume—assure top quality at lowest cost.

Your nearest Electro-Motive Branch maintains a stock of factory-rebuilt engines, traction motors, generators and other major components available for immediate shipment on Unit Exchange Service—assemblies that incorporate the latest advances in design and technology.

If you'd like further information about Electro-Motive's Unit Exchange Service, write us or consult our representative. It will save you money—and cut out-of-service time.

What we mean by "unit exchange"

There are two ways in which components may be sent to Electro-Motive for rebuilding. "Rebuild and Return" involves the rebuild and return of the customer's own property. "Unit Exchange" means the immediate delivery of a previously rebuilt and fully guaranteed component in exchange for one needing rebuilding sent in by the customer. You pay only for the work needed to bring the assembly to top-quality standards at Electro-Motive's low flat-rate charge.

ELECTRO-MOTIVE DIVISION

**GENERAL MOTORS
LA GRANGE, ILL.**



Home of the Diesel Locomotive

**In Canada: GENERAL MOTORS DIESEL, LTD.
London, Ont.**



86 DIESEL INJECTOR WATCH DOGS



These 86 Bowser fuel filters are going out to one customer. What a lot of clogged Diesel injectors they will prevent!

This sure, safe Bowser filtering method keeps Diesels rolling . . . keeps injectors "clean as a whistle."

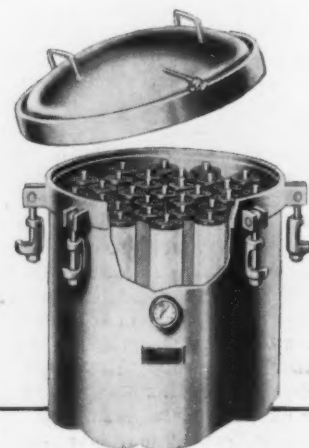
Bowser Diesel fuel filters get ALL the dirt. Extra-fine particles that foul up injectors just haven't got a chance!

Write for literature on how Bowser Micro-Filters will keep your Diesels on the job.

BOWSER, INC.,



1321 CREIGHTON AVENUE
FORT WAYNE 2, INDIANA



(Continued from page 66)

Price. Mr. Cresap, born in Chicago on January 3, 1910, was graduated from Williams College in 1932 and from Harvard Business School in 1934. He was a management consultant in



Mark W. Cresap, Jr.

New York and Chicago until 1939, when he joined the John B. Stetson Company. During World War II he served as a colonel in the United States Army in Washington, D. C., and in the Mediterranean and European theatres.

OBITUARY

Earl A. Averill, at one time managing editor of the *Railway Age Gazette*, Mechanical Edition (now the *Railway Mechanical and Electrical Engineer*), died on April 3.

Mr. Averill was born at Richland, N. Y., on August 13, 1878. In 1900 he received the degree of mechanical engineer at Cornell University, where he specialized in railway mechanical engineering. He began his railroad career in the summer of 1899 in the shops of the Philadelphia & Reading (now the Reading), at Reading, Pa., and upon graduation from Cornell went to West Burlington, Iowa, where he was employed in the mechanical department of the Chicago, Burlington & Quincy.

Four years later Mr. Averill joined the staff of the *Railway and Engineering Review* of Chicago. On January 1, 1906, he became associated with the *American Engineer and Railroad Journal*, and on April 1, 1910, was appointed managing editor. He continued as managing editor of the *Railway Age Gazette*, Mechanical Edition, when the *American Engineer and Railroad Journal* was incorporated with that paper upon its purchase by the Simmons-Boardman Publishing Company in 1911. On March 1, 1914, he resigned to become engineer of operation of the Standard Stoker Company. Upon organization of the Locomotive Feedwater Heater Company in 1916, Mr. Averill, one of the organizers, became vice-president of that company. From

March 1921, when the Locomotive Feedwater Heater Company was taken over by the Superheater Company, until July 1940, Mr. Averill was engaged in the service department of the Superheater Company.

J. A. Voland, president of the Golden-Anderson Valve Specialty Company, died recently at his home in West View, Pa. Mr. Voland had been inactive for the past year and a half.

EQUIPMENT AND SUPPLIES

FREIGHT CARS

7,011 Freight Cars Delivered in March

Deliveries of new domestic freight cars were up sharply in March, totaling 7,011—an increase of more than 20 per cent above the 5,842 cars delivered in February, the American Railway Car Institute and the Association of American Railroads have announced jointly. Orders for 11,271 new freight cars in March raised the backlog of cars on order on April 1 to 158,619.

A breakdown of cars ordered and delivered in March, and of cars on order on April 1, is given in the accompanying table.

TYPE	ORDERED	DELIVERED	UNDELIVERED April 1, 1951
Box—Plain	3,200	3,051	56,600
Box—Auto	...	250	1,150
Flat	570	407	4,062
Gondola	1,725	1,257	33,855
Hopper	4,760	1,221	37,867
Covered Hopper	163	190	4,912
Refrigerator	300	372	7,760
Stock Tank	391	223	500
Caboose	...	40	10,278
Other	162	...	558
TOTAL	11,271	7,011	1,077
Carbuilders	8,821	4,966	158,619
Railroad Shops	2,450	2,045	113,713
			44,906

The **Pittsburgh & West Virginia** has ordered five 30-ft. 30-ton steel caboose cars from the International Railway Car & Equipment Manufacturing Co. for delivery next August.

SIGNALING

C. & O. \$3½ Million C.T.C. Project Approved by D.P.A.

Extension of centralized traffic control over its entire 155-mi. single-track line between Cheviot, Ohio, and Peru, Indiana, has been announced by the Chesapeake & Ohio, following approval of the \$3,500,000 project by the Defense Production Authority. To conserve manpower and obviate need for acquiring materials far in advance of installation, the program has been divided into two parts, one of which is already under way.

The initial installation from Cheviot to Drew, Ind., was started last October (see *Railway Age* of October 14, 1950, page 57), and is scheduled for completion by May 1, 1952. Work on the second project, from Drew to Peru, is expected to begin early next year. The entire installation should be ready for service by June 30, 1953.

The **Western Maryland** has ordered from the Union Switch & Signal Co. materials to install centralized traffic control on 26 miles of single track between Hagerstown, Md., and Shippensburg, Pa. The 5-ft. style C control machine will be installed at Hagerstown division headquarters. In addition to code equipment, the order includes style R-2 color light signals, style A-21 dual control electro-pneumatic switch machines, style SL-21A electric switch locks and housings. Field installation will be done by railroad forces.

COMMUNICATIONS

The **Western Pacific** has ordered from the Bendix Radio Division of Bendix Aviation Corporation adjacent channel two-way radio equipment to be installed on 40 switching locomotives and in eight yard offices at San Francisco, Cal., Oakland, San Jose, Stockton, Oroville and Portola, and at Elko, Nev.

ABANDONMENTS

Chicago & North Western.—Authority to abandon this road's branch between Scribner, Neb., and Oakdale, approximately 114 miles, has been denied by the I.C.C. The report, by the full commission, said the line has "definite feeder value" to the C. & N. W. It added that "substantial public need for the line has been shown," and continued operation will not impose an undue burden upon the road.

Chicago North Shore & Milwaukee.—The Illinois Commerce Commission has refused a rehearing on its decision that the railroad may not use buses in place of, or supplementary to, rail suburban service on its "Shore Line Route." (See *Railway Age* of April 2, page 88.) The commission also has taken under advisement a petition by the railway that commuter fare increases authorized in June 1948 on a temporary basis be made permanent. These increases, effective intrastate on all lines of the company, range from 30 to 100 per cent.

Montana Western.—The I.C.C. has postponed, for an indefinite period, the effective date of the order which denied this road's application for authority to abandon its entire line, ap-

How DEDNOX*



(60% CORK BY VOLUME)

Car Insulation

CUTS DAMAGE CLAIMS

Genuine Dednox Cork Insulation gives positive condensation control in freight cars by cutting heat transfer through roofs from 60% to 70%. This means virtual elimination of losses arising from water damage to food, furniture and machinery lading. Reports on claims have shown, time after time, that where water damage due to roof condensation occurred in multi-car shipments, *only Dednox-insulated cars had damage-free contents.*

Dednox also rustproofs and waterproofs car roofs, adding protection to the car itself and removing the possibility of food damage from scaling paint or rust.

COSTS LESS TO APPLY

Two important characteristics of Dednox Cork Insulation make it very economical to apply: First, only *ONE* application is necessary to get a smooth, thick coating of Dednox on the car roof interior; Second, Dednox shrinkage is nearly $\frac{3}{4}$ less than emulsion-type asphalt coatings. You make substantial labor and material savings when you insulate with Dednox.

LASTS LONGEST IN SERVICE

Dednox applied to cars in 1934 is still giving excellent insulation protection. Accelerated laboratory weathering tests show a life expectancy equivalent to 50 years!

Most convincing proofs of Dednox superiority are comparative tests with other car insulating materials. Your test engineers will be furnished a liberal production run sample of Dednox, without obligation, upon request.

Full information on Dednox is available promptly. Write for this cost-saving data today.

*Dednox was the first successful Cork Car Insulation. It is made from highest quality cutback asphalt, containing at least 60% by volume cork granules. Its K-Factor (heat transmission rate) is .36.



DEDNOX

INCORPORATED

7750 WEST 61ST PLACE
SUMMIT, ILLINOIS

(Chicago Suburb) PORTSMOUTH 7-7149

proximately 17 miles. In denying permission to abandon, the commission's order had also prescribed joint through rates on carload grain moving from points on the M.W. to points on the Great Northern. (See *Railway Age* of September 2, 1950, page 96.) The commission's latest action in the case followed a March 16 opinion of the U. S. District Court in Minnesota. The court held that the I.C.C. order should be vacated and set aside. Appeal to the court was made by the G.N.

Tennessee & North Carolina.

The I.C.C. has postponed, for an indefinite period, Division 4's recent order authorizing this road to abandon its entire line. (*Railway Age*, of April 2, page 88.) The Board of County Commissioners of Clay County, N. C., has filed a petition for reconsideration of the case.

Application has been filed with the I.C.C. by:

CHICAGO, BURLINGTON & QUINCY.—To abandon approximately 24.3 miles of line between Sedan, Iowa, and Uniontown, Mo.

CHICAGO GREAT WESTERN.—To abandon operation under trackage rights (acquired in 1942) over a 19.2-mi. line of the Chicago & North Western between Dodge Center, Minn., and Rochester.

Division 4 of the I.C.C. has **authorized:**

CHICAGO & NORTH WESTERN.—To abandon 17.8 miles of branch between Pelican Lake, Wis., and Crandon.

LEHIGH & NEW ENGLAND.—To abandon approximately 3.2 miles of branch line, extending from a mile east of Hauto, Pa., to Nesquehoning. There has been no train service over the line since April 1948.

MISSOURI PACIFIC.—To abandon two segments of line in St. Louis county, Mo., one extending from a point near Eureka to Glencoe Junction, 3.3 miles, and the other extending from near Glencoe to Lime Kilns, 2.7 miles.

SOUTHERN PACIFIC.—To abandon operation over two segments, totaling approximately 1.8 miles, of the so-called Bisbee branch of the El Paso & Southwestern near Lowell, Ariz. The latter road will abandon the trackage.

TEXAS & NEW ORLEANS.—To abandon 2.2 miles of branch line, from a point near Elks Junction, La., to the end of the line.

CAR SERVICE

I.C.C. Service Order No. 859, which relates to stop-off cars loaded with lumber or forest products in Oregon or Washington, has been modified by Amendment No. 3. The amendment increases to 50 per cent of the marked capacity of the car the volume of lumber and forest products which must be loaded at initial point of origin.

I.C.C. Service Order No. 874, the heavy-loading order applying to grain products and by-products, was supplanted by Revised Service Order No. 874, effective April 9. An explanatory statement from the Defense Transport Administration said the revised order would have the effect of insuring "uniform application" because it lists the commodities covered. The original order identified the commodities covered by reference to rate application in tariffs. That resulted in "excluding some

grain products and grain by-products in one or more areas while subjecting the same articles to the terms of the order in other areas," the D.T.A. statement said.

CONSTRUCTION

Naval Depot Project Includes RR Work

The recently reactivated United States naval ammunition depot at Fallbrook, Cal., will be rehabilitated at a cost of \$150,000. Included in the project will be renovation of railroad track facilities such as ballast, tie plates, frogs, ties and realinement.

\$3.5 Million for Track Relocation on N. & W.

A \$3.5 million track improvement project, to be done on a contract not yet awarded, between Lick Branch, W. Va., and North Fork, was announced on April 13 by the Norfolk & Western. Present track will be straightened and the ruling grade reduced from about two per cent to 1.4 per cent, compensated, along the 5-mi. stretch of main line 17 miles west of Bluefield, W. Va. The project is a continuation of relocation work completed last year from Cooper to Lick Branch, which included the 7,110-ft. double-track Elkhorn Tunnel. That portion of the program cost about \$12 million.

The new line, although never deviating more than 300 feet from the present right-of-way, will eliminate eight bridges and 11 curves. Of the present 23 curves, 17 are of eight degrees or over, reaching a maximum of almost 13 degrees. Eleven curves on the new line will be of 4½ degrees or less; the twelfth will be of 6 degrees.

The project will result in increased tonnage potentials for both freight and passenger trains, and will bring the railway full benefit of the completed Elkhorn construction to the east. Although there will be construction difficulties because of frequent crossings of the present and new lines, it is expected that the new tracks will be opened within a year. It is hoped that work will start in about six weeks.

Atcheson, Topeka & Santa Fe.—A water line to Island yard at Joliet, Ill., will be installed under contract by the D'Andrea Construction Company of Joliet. In connection with line changes east of Medill, Mo., Cameron, Joyce & Co., of Keokuk, Iowa, have been awarded a contract for unloading, hauling, placing and rolling topping material.

Bessemer & Lake Erie.—Diesel servicing facilities are being constructed, at indicated estimated costs, as follows: At Greenville, Pa. (\$720,000);

Conneaut, Ohio (\$230,000); North Bessemer, Pa. (\$70,000); and Albion, Pa. (\$340,000).

Canadian Pacific.—A total of 25 projects are included in the current program of the C.P.'s Prairie and Pacific regions. Each represents expenditure of \$20,000 or more. In Manitoba, an 18-span pile trestle bridge on the Estevan subdivision will be replaced by a 78-ft. half deck plate girder and two 60-ft. pile trestle bridges; a 100-ton wooden coaling plant on the Kaministiquia subdivision will be replaced by a new 50-ton steel plant; and a 70-ft. turntable at Souris will be replaced by a new 90-ft. table. In Saskatchewan, 20 spans at each end of an 82-span bridge on the Colonsay subdivision will be replaced with fill and rip-rap; a 134-ft. pile and frame trestle on the Vanguard subdivision will be replaced by five 60-ft. corrugated metal pipes and fill; a pile and frame trestle on the Furness subdivision will be replaced with a reinforced concrete box culvert and fill; the yard office building at Moose Jaw will be replaced; some 19,000 ft. of wood stave pipe on the Indian Head subdivision will be replaced with Transite pipe, and the mechanically operated interlocking plant at the Canadian National crossing on the Redford subdivision will be replaced with a semi-automatic, half interlocking plant. Facilities are to be provided at several points on the Alberta and British Columbia districts in connection with operation and maintenance of diesel-electric locomotives. The heating system in the roundhouse at Lethbridge, Alta., will be replaced by a hot air fan system. On the British Columbia district, the road plans to replace a 25-bent 360-ft. frame trestle on the Coquihalla subdivision with fill to eliminate fire hazard; construct a new station at Enderby; recondition the present station at Port Alberni; replace with fill and rip-rap a 480-ft., 32-bent timber wharf at Penticton; replace the wharf at Summerland; replace signal mechanisms on an 8-mi. section of the Mountain subdivision, and convert signals from primary battery to power-line and storage battery operations; install automatic permissive block signals from Taft to Salmon Arm (about 40 miles) on the Shuswap subdivision; install signal and interlocking protection at the Harrison River bridge, Harrison Mills; install an automatic electric interlocking plant to replace a manually operated plant at Hope; rebuild some 300 ft. of a snowshed on the Mountain subdivision; provide a tunnel on the Coquihalla subdivision and another on the Shuswap subdivision with reinforced concrete portals and other alterations as protection from rock falls; construct three storage tracks at Tadenac; and extend Belleville Street Wharf at Victoria, B. C., 380 ft. to provide mooring for new vessels.

Chesapeake & Ohio.—This road

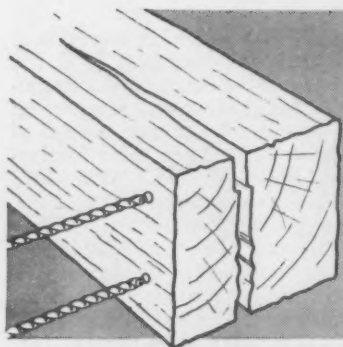
has awarded the following contracts at the indicated probable costs: To Haley, Chisholm & Morris, Inc., Charlottesville, Va., for grading and masonry on 4½-mi. spur track (to cost a total of \$807,000) to serve a new mine development at Blair, W. Va. (\$125,000); to H. F. Friestedt Company, Chicago, for office in Rockwell yard, Chicago (\$78,500); to the Rish Equipment Company, Richmond, Va., for replacing coal handling conveyors with heavy duty equipment at Russell, Ky. (\$32,000); to Ruibley & Kuerten, Inc., Toledo, Ohio, for toilet, wash and locker building and a pump house at east end of the Walbridge, Ohio, yard (\$31,788); to J. R. Heineman & Sons, Saginaw, Mich., for engine house alterations at Saginaw (\$31,000); and to the Sutton Company, Radford, Va., for grading and drainage connected with line revision at Tyree, Va. (\$16,275). Overall probable cost of the Tyree line revision will be \$35,300.

These projects have been authorized at the indicated probable costs: An automatic electric pumping plant at Quinimont, W. Va. (\$60,000); alterations in office of C. & O. annex at Richmond, and additional accounting machines (\$43,150); constructing a crib wall at Columbus, Ohio (\$30,700); two 21,690-gal. fuel oil storage tanks, one at Richmond, Ind., and one at Muncie (\$28,000); and remodeling three stalls in roundhouse for diesel maintenance shop at Hinton, W. Va. (\$23,900).

Illinois Terminal.—A new passenger and freight terminal at East Peoria, Ill., is currently under construction, at a cost of about \$100,000. The concrete, brick and steel structure will be completed on or about July 15. New steel flooring is to be installed on the McKinley toll bridge over the Mississippi river between St. Louis, Mo., and Venice, Ill., at a cost of approximately \$1 million. Because of rail and vehicular traffic conditions, it is estimated that this work will require about four years to complete. I-Beam-Lok steel decking will be used. The current program calls for installation of 12 miles of new rail and fittings and washed gravel ballast on the main St. Louis-East Peoria line.

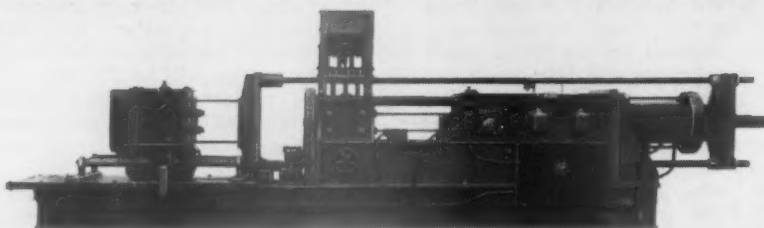
Louisville & Nashville.—Nearly \$1 million will be spent during the current year to enlarge the yard at Strawberry, Ky., just south of Louisville. The new work will involve construction of several additional tracks and extension of existing tracks to "provide needed relief and greater capacity to meet traffic increases in the Louisville area brought about largely by the country's preparedness program."

Missouri-Kansas-Texas.—This road has purchased land near Garland, Tex., for a proposed yard development. The property consists of about 108 acres, in a strip extending some 11,000 ft. south from the Garland sta-

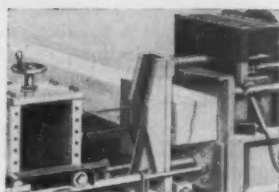


INCREASE TIE SERVICE LIFE

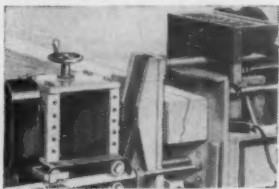
with GIANT GRIP DRIVE DOWELS and the Automatic GRAHAM TIE DOWELLING MACHINE



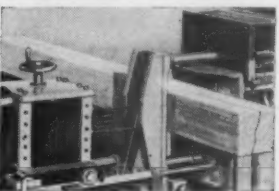
For fast, low cost dowelling of railroad ties—investigate the outstanding features and advantages of the modern Graham Tie Dowelling Machine. Furnished in Single or Double Units, this machine automatically drills and applies Giant Grip Drive Dowels into one or both ends of ties. Ties so protected pass through seasoning period, treatment, and road service, enjoying maximum security against end splitting, surface checking, and other causes contributing toward Infant Mortality—net result: maximum tie service life—reduced maintenance cost. Records of railroads now using these machines will convince you that this equipment will save you time, money and effort on all dowelling operations.



First Step—Ties are automatically fed into the machine, equalized for position and squeezed in the vise.



Second Step—Holes are automatically drilled slightly smaller than dowel size.



Third Step—Dowels are automatically screwed into tie by hydraulic pressure, completing operation. Tie is released and is then ejected by incoming tie.

Write today for Bulletin DM-1

GRAHAM

TIE DOWEL SERVICE CO.

1201 HUNTINGTON BANK BUILDING • COLUMBUS, OHIO

tion. The area will be large enough to accommodate extended yard tracks and modern freighthouse facilities to serve the metropolitan Dallas area, D. V. Fraser, president, said. "Our present yard facilities in Dallas will soon be inadequate to take care of increasing freight business," Mr. Fraser said. "We have not as yet determined when we will undertake to move our yard facilities . . . This will depend upon future requirements, but with the rapid industrial development of the Dallas area we are confident that this [Garland] property will be utilized for expanded Katy yard operation within the near future."

New York Central.—This road has awarded the following contracts: To Luria Engineering Corporation, New York, for a steel building in connection with diesel facilities at Rochester, N. Y.; to the Worthington Pump & Machinery Corp., New York, for a hot process water softener to treat feed water at Buffalo, N. Y., power station; to the Bethlehem Steel Company, New York, for structural steel for three spans for bridge No. 136 at Blackwell, Pa.; to Joseph Davis, Inc., Buffalo, for piping for three 1,000,000-gal. diesel fuel oil storage tanks at Minoa, N. Y.; to the Horn Construction Company, New York, for reconstructing bridge H-53-A, Harney road, Scarsdale, N. Y.; and to Bethlehem Steel for erecting five 1,000,000-gal oil storage tanks at Selkirk, N. Y. (1), Minoa (2), Watertown (1), and Buffalo (1).

New York Central.—Large shops for inspecting and repairing diesel-electric locomotives will be constructed at East Syracuse, N. Y., and East Buffalo at a cost of several million dollars. Work is expected to start late this summer. The East Syracuse shop, to be constructed near an existing fueling and sanding station at DeWitt yard, will have three through tracks with servicing platforms, each capable of accommodating a 4-unit locomotive; two drop pits; and one release track with crane service. A locomotive-washing machine also will be installed beside an outside track. It is expected that this shop ultimately will maintain, between general overhauls, about 195 road freight units, 46 road-switching locomotives and 65 yard switchers. The East Buffalo shop, to be located at the road's Sycamore Street "Y," will be equipped with a drop pit under four tracks; a drop table for changing trucks; cranes; and other equipment. About 145 yard switchers and road-switchers will be maintained there eventually.

Texas & Pacific.—Contracts for three major projects have recently been let. At Big Spring, Tex., the Suggs Construction Company will rebuild the passenger station at a cost of \$78,000. The passenger station at Minneola will be similarly rebuilt by the M. Clint Brown Construction Com-

pany of Longview. The work will cost \$68,000. At East Dallas, construction of buildings at the carloading docks is being undertaken by the Cedric Burgher Construction Company, Dallas, at a total cost of \$255,000.

Union Pacific.—This road has applied to the I.C.C. for authority to construct a new westbound main line between Cheyenne, Wyo., and a point near Dale Creek, approximately 42 miles. The present line has a maximum gradient of 1.55 per cent and a maximum curvature of 4 degrees, whereas the new line would have a gradient of not more than 0.82 per cent and a maximum curvature of 2 degrees 30 minutes. The U.P. could thus eliminate all helper service westward from Cheyenne, and, in addition, expects to make substantial savings on road engine fuel costs. Construction of the new line would be paid for out of current funds.

FINANCIAL

Beaver, Meade & Englewood.—*New Director.*—W. L. Kistler, president of W. L. Kistler, Inc., Tulsa, Okla., has been elected a member of the board of directors of this subsidiary of the Missouri-Kansas-Texas.

Boston & Providence-New York, New Haven & Hartford.—*Reorganization.*—Acting on a request of the trustee of the former road, the I.C.C. has set for consolidated hearing on May 21 the B.&P. reorganization case and the related proceeding wherein the New Haven has applied for authority to purchase certain matured debentures of the B.&P. The hearing will be held at Boston, Mass., before I.C.C. Examiner Homer H. Kirby.

The commission said the hearing on the B.&P. reorganization would be to receive further evidence toward formulation of an acceptable plan of reorganization for that road. A previous plan was rejected by the U.S. District Court in Massachusetts on February 25, 1948, and the case was sent back to the commission. The May 21 hearing will cover amendments to the previous plan, a new plan proposed by the trustees, or any other plans that may be filed before or during the hearing.

The New Haven application to purchase \$2,170,000 principal amount of mature B.&P. debentures, as well as all of the latter's capital stock held by the public, will also be covered. The commission said it would receive evidence in support of or in opposition to the New Haven application.

Hudson & Manhattan.—*Debt Readjustment.*—William Reid, president of this company, told stockholders at



HERE'S TIME-SAVING CONVENIENCE for your repair-shop electrical needs

As a result of today's general rise in rail traffic, repair shops throughout the nation face greatly increased work loads.

That's why you'll find it profitable to get all your electrical needs from a single source . . . from Graybar. You'll find this helpful time-saving service really worthwhile . . . an easy way to prevent the delay and inconvenience caused by piece-

meal inquiries to individual suppliers.

Through a nation-wide warehouse system, Graybar distributes the products of nearly 300 of the nation's leading manufacturers—a total of over 100,000 items covering practically everything electrical needed by your shops. Here are just a few of the items—all first-quality—you can get on a single order from Graybar.

Power Apparatus — G-E motors, controls, panelboards, fuses.

Lighting Equipment — fluorescent, incandescent, and mercury fixtures — plus lamps — for shops, yards and offices.

Tools — saws, screwdrivers, nibblers, hammers, soldering irons — hand tools and power-operated tools of all kinds.

Everyday Supplies — wire, cable, connectors, lugs, tape, conduit, fittings.

Graybar service to railroads also includes the help of specialists in the selection, procurement, and application of pole-line supplies and communication equipment.

Your near-by Graybar Representative stands ready to give you up-to-the-minute


information on prices and local delivery conditions to help you plan ahead for "on schedule" deliveries. Please see the Pocket List for the address of our nearest office. *Graybar Electric Company, Inc. Executive Offices: Graybar Bldg., New York 17, N.Y.*

142-204

OFFICES AND WAREHOUSES IN OVER 100 PRINCIPAL CITIES

100,000 ELECTRICAL ITEMS ARE DISTRIBUTED

THROUGHOUT THE NATION



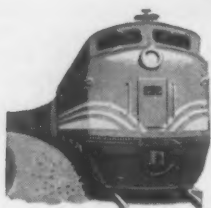
...VIA

Graybar

**JUST PLUG IN THIS RELAY AND
TWO CRYSTALS TO CONVERT THE
BENDIX MRT-5B
ADJACENT CHANNEL TRAIN COMMUNICATIONS UNIT
TO DUAL CHANNEL
OPERATION!**



No costly
modifications
No extra tubes



When you install the Bendix* MRT-5B adjacent channel radio for mainline end-to-end communication, remember, you can include wayside-to-train operation at very little cost. The second channel can be added easily and in a matter of a few seconds simply by plugging in a miniature, sealed relay and two crystals—bothersome and expensive installation problems are eliminated. The MRT-5B can be operated on any two channels in the 152-162 megacycle band separated by as much as 600 kilocycles, yet maintain receiver sensitivity and transmitter power output within performance specifications. For the most compact, most versatile ADJACENT CHANNEL train radio, specify BENDIX RAILROAD RADIO.

*REG. U.S. PAT. OFF.

P.S. Canadian Distributor
Radio Engineering Products, Ltd.
4305 Iberville Street
Montreal, Quebec

**Freight Travels *Faster*
with Bendix Radio!**

**BENDIX RADIO DIVISION of
BALTIMORE 4, MARYLAND**



Export Sales: Bendix International Division, 72 Fifth Avenue, New York 11, N. Y.

the annual meeting in Jersey City, N. J., on April 11 that "a lot of study has already been given . . . to the matter of the maturity of the company's bond issues in 1957 and a great deal of consideration is being given to a possible plan of debt readjustment." Total funded debt of the H. & M., all of which will mature on February 1, 1957, is \$46,339,405.

International-Great Northern-Texas Mexican.—Operating Agreement.—These roads have filed with the I.C.C. an agreement which would provide for the handling of cars interchanged with the National of Mexico at Laredo, Tex. (See *Railway Age* of October 1, 1949, page 60.) Division 4's original report in this case suggested that the roads organize an independent terminal company to handle export-import traffic moving over the international bridge at Laredo. In filing their present agreement, the roads said joint operations at Laredo, rather than a separate terminal company, "will result in more practical and economical arrangements for interchange of freight and passenger cars with National of Mexico."

Missouri-Kansas-Texas. — Adjustment Bonds.—Directors of this road have authorized payment of one coupon on adjustment mortgage bonds. The coupon will become due and payable May 1 and is No. 51, dated April 1, 1948.

Rutland. — Reorganization.—Division 4 of the I.C.C. has fixed \$32,563 as the maximum sum to be paid for services rendered and reimbursement of expenses in connection with this road's reorganization from June 11, 1948, to termination of proceedings on November 1, 1950. (*Railway Age*, November 11, 1950, page 103) Various parties of interest had entered claims for \$43,896 for the period.

Wichita Falls & Wellington.—New Director.—John B. Cowden, president, Clark & Cowden Drilling Corp., Dallas, Tex., has been elected a director of this M.K.T. subsidiary.

New Securities

Applications have been filed with the I.C.C. by:

DONORA SOUTHERN.—To issue a promissory note for \$870,000, payable on demand to its parent company, the United States Steel Corporation. The note, evidencing advances made by the payee, would bear interest at 4 per cent, if earned. If not, the interest would be the amount of the applicant's net income.

JOHNSTOWN & STONY CREEK.—To issue a note for \$400,000 to the United States Steel Corporation, for money previously advanced to the road on open account. The note, payable on demand, would bear interest at 4 per cent, if earned, or up to total net income if such income amounts to less than the 4 per cent.

LAKE TERMINAL.—To issue four promissory notes in the aggregate amount of \$2,713,000 to its parent company, the United States Steel Corporation. One of the notes—for \$1,745,200—would be a demand note evidencing unpaid balance due on loans made by the payee for various purposes. It would bear interest at 4 per cent, if earned; if not, the interest would be the amount of L.T.'s net income. The other three notes and their interest rates would be \$273,200, 1½ per cent; \$322,800, 2¼ per cent; \$372,600,

2 3/4 per cent. They would be payable, respectively, in 32, 38 and 53 monthly installments. These notes would evidence unpaid balances due on loans made in June 1947, April 1948, and July and September 1949, for purchase by the L.T. of 19 diesel-electric locomotives. The proposed interest rates, the application said, are rates which would have been available under equipment-trust or conditional-sale arrangements at the times when the loans were made.

NORTHAMPTON & BATH.—To issue a promissory note for \$300,000, payable on demand to its parent company, the United States Steel Corporation. The note, evidencing advances made by the payee, would bear interest at 4 per cent if earned. If not, the interest would be the amount of the N. & B.'s net income.

Division 4 of the I.C.C. has authorized:

GREAT NORTHERN.—To assume liability for \$10,740,000 of equipment trust certificates, to finance in part 39 diesel-electric locomotives and 1,350 freight cars, costing an estimated \$13,477,500. (*Railway Age*, March 19, page 90). The certificates will be dated April 1, and will mature in 30 semiannual installments of \$358,000 each, beginning October 1, 1951. Division 4 approved a selling price for the issue of \$9,439 with interest at 2 3/4 per cent—the bid of Salomon Bros. & Hutzler and three associates—which will make the average annual cost of the proceeds approximately 2.96 per cent. The certificates were resold to the public at prices yielding from 2 to 2.95 per cent, according to maturity.

Security Price Averages

	Apr. 10	Last Week	Last Year
Average price of 20 representative railway stocks	55.37	53.83	42.33
Average price of 20 representative railway bonds	96.33	96.00	93.07

Dividends Declared

Cleveland, Cincinnati, Chicago & St. Louis.—5% preferred, \$1.25, quarterly, payable April 30 to holders of record April 13.
Louisville & Nashville.—\$1, quarterly, payable June 12 to holders of record May 1.
Piedmont & Northern.—7 1/2%, quarterly, payable April 20 to holders of record April 5.

RAILWAY OFFICERS

EXECUTIVE

As reported in *Railway Age* April 2, **J. Frank Doolan**, executive vice-president of the NEW YORK, NEW HAVEN & HARTFORD at New Haven, Conn., has



J. Frank Doolan

retired. Mr. Doolan was born on January 22, 1889, at New Haven, where he attended Butler Business College. He entered railroad service on December

20, 1904, as yard and record clerk with the New Haven, subsequently serving as crew dispatcher, train rules examiner, division chief clerk, assistant trainmaster, trainmaster, terminal trainmaster, assistant superintendent, acting superintendent, division superintendent and operating assistant to vice-president. Mr. Doolan was appointed assistant to trustees in June 1946, operating vice-president on February 1, 1948, and executive vice-president in December 1949.

Lyttleton F. Wilson, assistant general manager of the DENVER & RIO GRANDE WESTERN, with headquarters at Denver, Colo., has been appointed assistant executive vice-president. Mr. Wilson joined the Rio Grande in June 1907 as secretary to the assistant general manager. He served successive-



Lyttleton F. Wilson

ly as system car distributor, chief clerk to the assistant general manager, chief clerk to the general manager and superintendent of transportation, being advanced to general superintendent of transportation in 1923. Four years later he was appointed assistant general manager.

FINANCIAL, LEGAL & ACCOUNTING

As announced in the April 9 *Railway Age*, **Roland W. Spangenberg** has been appointed assistant general counsel of the CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC, with headquarters at Chicago. Mr. Spangenberg was born on January 12, 1910, and was graduated from Northwestern University Law School in 1933. He began his railroad career with the Milwaukee in May 1935 as chief clerk in the law department at Chicago, and in September 1939 became assistant general solicitor. He held the latter post before his new appointment.

As reported in the March 5 *Railway Age*, **Herbert H. Siddall** has been elected general auditor of the CHICAGO, ROCK ISLAND & PACIFIC, with headquarters at Chicago. Mr. Siddall began his railroad career with the

Pere Marquette (now P. M. district, Chesapeake & Ohio), and later served as chairman and rodman with the New York Central. He started with the Rock Island in 1915 in the real estate and tax department and, following two years service with the 23rd Engineers in World War I, was transferred to the road's accounting department in 1919. Subsequently he held



Herbert H. Siddall

various positions in that department, and conducted cost studies in connection with rate investigations before the I.C.C. and various state commissions. In January 1949 Mr. Siddall was appointed special representative in the executive department and chairman of the Rock Island's committee on new methods. He became acting general auditor in December 1950, in which position he served until his election as general auditor.

Alexander J. Brady, assistant comptroller of the ERIE at Cleveland, Ohio, has retired after more than 52 years of service. **Frank A. MacEwen**, general accountant, has been appointed assistant to comptroller. **Jasper Van Hook**, special accountant, has been promoted to general accountant. Mr. Brady was born at New York on March 6, 1886, and attended Drake Business College and New York University (accounting and business finance). He entered railroad service in September 1898 as a clerk in the office of the auditor of revenues of the Erie and subsequently served successively as bookkeeper, statistician, accountant, chief clerk to comptroller, tax accountant, general accountant and assistant to comptroller. He was appointed assistant comptroller in 1948.

OPERATING

As reported in *Railway Age* April 9, **E. C. McKay** has retired as superintendent of the Smith's Falls division of the CANADIAN PACIFIC at Smith's Falls, Ont. Mr. McKay entered railroad service in May 1900 as a freight messenger in the operating department of the C. P. at Brockville, Ont., and subsequently served as operator, reliev-

ing dispatcher, chief dispatcher, transportation assistant, and assistant division superintendent. He was appointed division superintendent at Farnham, Que., in September 1942, transferring to Smith's Falls in 1944.

Robert J. Blagburn, assistant general freight agent of the BALTIMORE & OHIO, has been promoted to general freight agent (sales and service), with headquarters as before at Chicago, succeeding **Carl H. Groninger**, whose appointment as assistant freight traffic manager was announced in the *Railway Age* of March 26. **Warren J. Smith**, chief rate clerk, succeeds Mr.

Blagburn as assistant general freight agent at Chicago. Mr. Blagburn joined the B.&O. in 1923 and moved up through a series of clerical positions to become assistant to the general freight agent at Chicago in 1944. He was named assistant general freight agent at Chicago in 1947.

Kenneth L. Moriarty, chief engineer of the DENVER & RIO GRANDE WESTERN, with headquarters at Denver, Colo., has been appointed assistant general manager, succeeding **Lyttleton F. Wilson**, who has become assistant executive vice-president, as announced elsewhere in this issue. Mr.

Moriarty was born on November 18, 1896, and began his railroad career in the engineering department of the Great Western. He entered Rio Grande service as division engineer at Gunnison, Colo., in July 1924. Later he served in that position and as roadmaster and trainmaster at various



Kenneth L. Moriarty

points until 1939, when he was promoted to superintendent at Grand Junction, Colo., being transferred in the same capacity to Salt Lake City, Utah, in 1943. Mr. Moriarty became assistant chief engineer in February 1946, and has been serving as chief engineer since January 1948.

Charles H. Winter, who has been promoted to general superintendent of transportation of the CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC at Chicago (*Railway Age*, March 26), was born May 15, 1887. Starting with the Milwaukee in November 1901 as an of-



Charles H. Winter

fice boy in the car accountant's office at Chicago, Mr. Winter later held various positions in that office. From 1908 to 1946 he served as operator and yard clerk, chief clerk, special representative to superintendent of transportation and assistant to general superintendent of transportation. Subsequently he became superintendent of transportation (Continued on page 83)



Fast, Flexible SWITCHER on Rubber

Here is the most unusual Switcher you've ever seen . . . a big, rugged 4-wheel drive PAYLOADER specifically designed and constructed for car switching — at railroad yards, terminals, docks and industrial yards.

The PAYLOADER walks right across tracks and yard to reach a string of cars by the shortest, quickest route. It can push or pull in either direction because it has four wheel drive and full-reversing transmission with four speeds forward and four reverse. It can also push or pull from alongside the cars.

This switcher is equipped with a 75 horsepower engine, either gasoline or diesel, and its 11 tons of weight on large pneumatic earth-

mover tires gives it tremendous tractive effort—far more than can be obtained with equivalent rail-mounted equipment. Short wheel base, power-booster steering and powerful hydraulic brakes provide extreme maneuverability, ease of control and safety.

Keep traffic flowing — get full facts on the PAYLOADER way to switch and move cars faster, at lower cost. The Frank G. Hough Co., 769 Sunnyside Avenue, Libertyville, Illinois.



JOB STUDY No. 18

is a complete, authorized picture-and-word report on the uses of PAYLOADERS and PAYLOADER Switchers by a large brewery. It's available without obligation if requested on your letterhead.



PAYLOADER®

THE FRANK G. HOUGH CO. : Since 1920





SAVED!

... dozens of man-hours— by a few minutes of Radiography

THERE'S a lot of skilled machinist time invested between a cast bronze blank and a finished precision gear. And it's time all lost when you wait until the cutting tool exposes a gas hole or other irregularity in the casting causing rejection.

Nowadays that time can be saved—saved by first proving the casting sound—by Radiography. Foundries that do this can be certain that only high-quality castings are released. And this is the basis for an enviable reputation. What's

more, radiography often suggests changes in casting methods which increase the yield in production runs.

Get in touch with an x-ray dealer. Ask him to give you more details on how Radiography can better your foundry operations and increase production. Send for a free copy of "Radiography as a Foundry Tool."

EASTMAN KODAK COMPANY
X-ray Division • Rochester 4, N. Y.

Radiography...

another important function of photography

Kodak
TRADE-MARK



E

STANDS FOR

IN NEW Chilled Car Wheels

efficiency

NEW

Chilled Car Wheels now offer *longer* service life...*less* rim and flange wear...*fewer* wheel failures... proven by many months of actual service.

engineering

NEW

Chilled Car Wheel design (AAR X-1) is an engineering triumph of AMCCW members in producing a uniformly superior wheel for freight service usage.

excellence

NEW

Chilled Car Wheels are produced under strictest laboratory inspection standards to assure exacting quality control in producing wheels of outstanding excellence.

economy

NEW

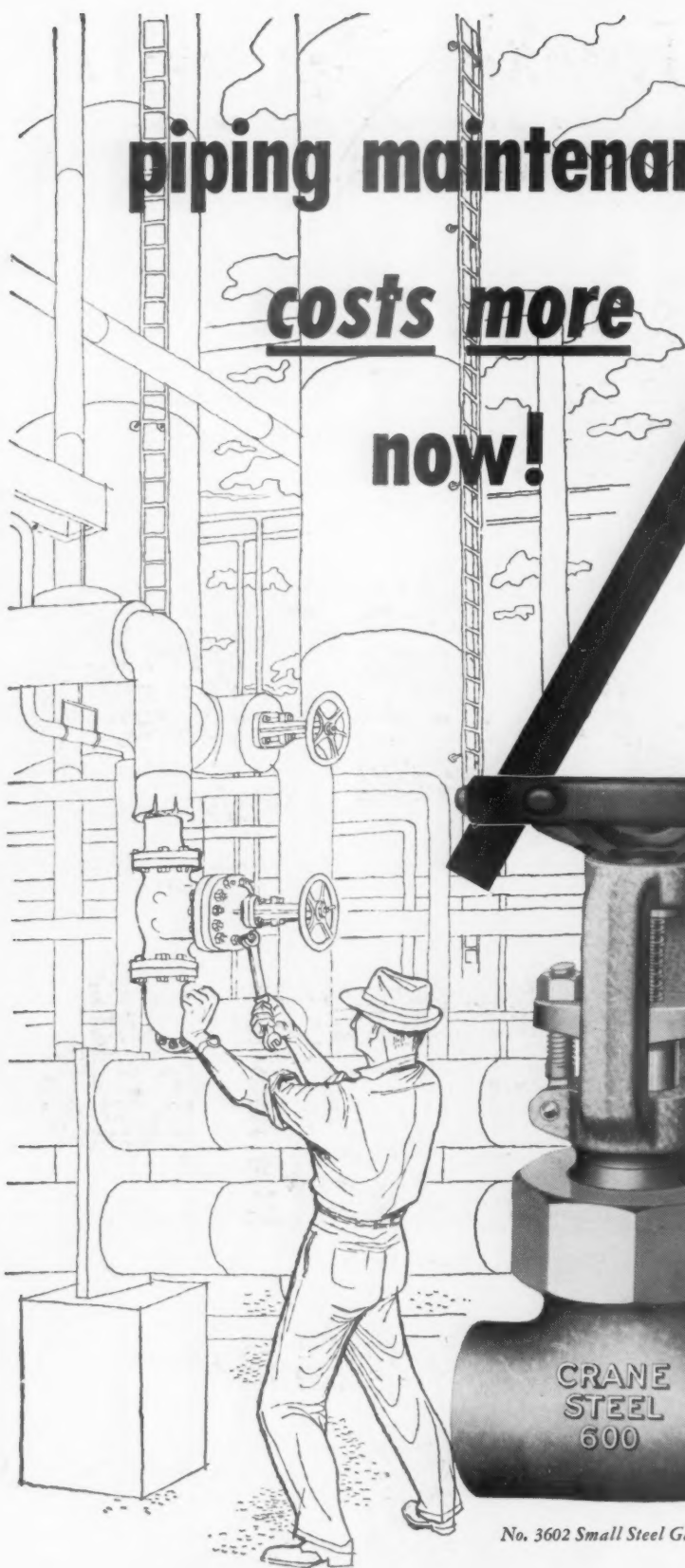
Chilled Car Wheels afford appreciable economies...lower first costs...immediate salvage turnover... on-the-spot deliveries require less inventory.



Discuss the advantages of *new* Chilled Car Wheels for freight service with an **A.C.F.** representative.
American Car and Foundry Company, New York
Chicago • St. Louis • Cleveland • Philadelphia
Washington • Pittsburgh • San Francisco

by a.c.f.





pipng maintenance

costs more

now!

**You do less of it
by using Dependable Quality**

CRANE VALVES

*...That's why
more Crane Valves
are used
than any other make*

easy to use...easy to keep on the job

You'll have much less valve maintenance wherever you install Crane 600-Pound Small Steel Gates. Use with recommended trim on oil or oil vapor, steam, water, air, or gas.

Compact yet rugged—light yet strong—these are truly small steel valves with big valve features. They sacrifice nothing that insures dependability and tight seating, easy operation, and convenience in keeping them in top-notch working condition.

Supplied in sizes 2 inches and smaller, No. 3602 valves are engineered to the standards that make Crane Quality your best choice in valves of every type.

No. 3602 Small Steel Gate Valve

CRANE

CRANE CO., General Offices:
836 S. Michigan Ave., Chicago 5, Ill.
Branches and Wholesalers Serving
All Industrial Areas

VALVES • FITTINGS • PIPE • PLUMBING • HEATING

(Continued from page 78)
at Chicago, from which post he was recently promoted.

Raymond N. Wilson, superintendent of the RIVER TERMINAL, a subsidiary of Republic Steel Corporation, has been appointed general manager, with headquarters as before at Cleveland, Ohio, succeeding **Bert Ladley**, who has resigned. **Paul L. Cox**, assistant superintendent, succeeds Mr. Wilson as superintendent. **John Greenalch**, general yardmaster, has been named to succeed Mr. Cox as assistant superintendent.

C. F. Browning has been appointed superintendent-joint agent of the WICHITA TERMINAL ASSOCIATION and superintendent of the WICHITA UNION TERMINAL, succeeding the late **F. R. Walker**.

MECHANICAL

Philip H. Hatch, general mechanical superintendent of the NEW YORK, NEW HAVEN & HARTFORD at New Haven, Conn., has retired (*Railway Age* April 2). Mr. Hatch was born at Albany, N. Y., on May 25, 1899, and attended Massachusetts Institute of Technology (B.S. 1921). He was a student engineer with General Electric Company at Schenectady, N. Y., during 1921-1922; entered railroad service in 1922 as computer with the Cleveland Union Terminals at Cleve-



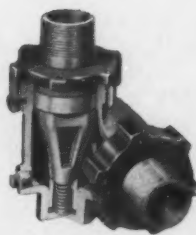
Philip H. Hatch

land, Ohio; and joined the New Haven in 1923, serving successively as special apprentice, electrical inspector, engineering assistant, engineer automotive equipment, assistant engineer and engineer electric and automotive equipment. He was appointed assistant mechanical engineer in 1941 mechanical engineer in May 1944, and general mechanical superintendent in November 1944.

TRAFFIC

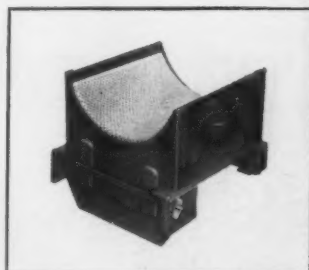
J. R. Griffin, general agent of the MISSOURI-KANSAS-TEXAS at Washington, D. C., will retire at his own request on June 17, after more than 30

use Franklin parts on Franklin devices

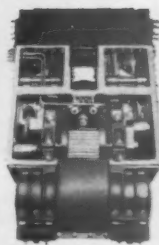


Sleeve Joints

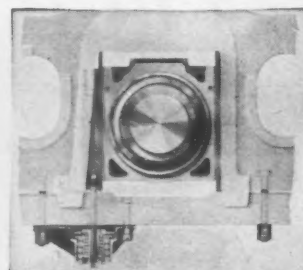
In order to obtain full efficiency from your Franklin devices, specify genuine Franklin parts in replacement. Franklin devices will always perform best when equipped with genuine Franklin parts made to interchangeable tolerances and of the correct materials.



Driving Box Lubricators



The Locomotive Booster



Automatic Compensators & Snubbers



Franklin System of Steam Distribution



Radial Buffers



Fire Doors



Power Reverse Gears



FRANKLIN RAILWAY SUPPLY COMPANY

A CORPORATION

NEW YORK • CHICAGO • TULSA • MONTREAL

STEAM DISTRIBUTION SYSTEM • BOOSTER • RADIAL BUFFER • COMPENSATOR AND SNUBBER
POWER REVERSE GEARS • FIRE DOORS • DRIVING BOX LUBRICATORS • OVERFIRE JETS
JOURNAL BOXES • FLEXIBLE JOINTS • TANK-CAR VALVE

RAILWAY DISTRIBUTOR FOR N.A. STRAND FLEXIBLE SHAFT EQUIPMENT

years of service. On that date the position of general agent will be abolished. **G. P. Strode**, general agent at Memphis, Tenn., has been appointed to the newly-created position of general freight and passenger agent at Washington. **F. A. Honeycutt**, traveling freight and passenger agent at Memphis, succeeds Mr. Strode as general agent.

Joel T. Gheesling, Jr., commercial agent of the SOUTHERN, has been advanced to division freight and passenger agent, with headquarters re-

maining at St. Louis, Mo., succeeding **R. L. Peace**, who has resigned.

The following officers of the GRAND TRUNK WESTERN-CANADIAN NATIONAL have been appointed to new positions at Chicago: **J. M. Parramore**, general freight agent, as assistant freight traffic manager; **R. A. Norris**, assistant general freight agent, rates, as assistant freight traffic manager, rates; **J. M. Frank**, assistant to the freight traffic manager, as general freight agent, rates; and **E. F. Flinn**, general dairy agent, as assistant general

freight agent. **A. M. Sharpe**, general agent at Kansas City, Mo., moves to Chicago in the same capacity. Mr. Parramore was born on June 12, 1892, and began his career as assistant agent for the New York & Boston Refrigerator Co. (subsidiary of G.T.W.-C.N.R.) at Chicago in 1919. After serving successively as general agent, traffic manager and president and general manager until 1942, when the refrigerator company became a part of the G.T.W., he was appointed dairy traffic manager, and in 1944 was made assistant general freight agent. He became general freight agent in 1946.

PURCHASES & STORES

F. S. Palecek, assistant district storekeeper of the CHICAGO, BURLINGTON & QUINCY, has been appointed acting district storekeeper, with headquarters as before at Chicago.

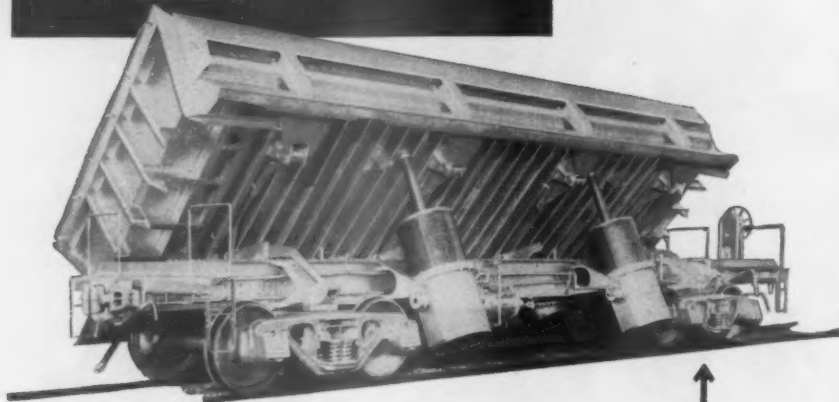
A. H. Evans, district storekeeper of the CANADIAN PACIFIC at Winnipeg, Man., has been appointed general storekeeper of the Eastern region at Angus shops, Montreal, Que., succeeding **A. S. Galey**, who has retired on pension, after 42 years with the stores department. **S. L. Kelsall**, storekeeper at Angus shops, succeeds Mr. Evans at Winnipeg. **Francis McLevy**, general foreman at Angus shops, succeeds Mr. Kelsall. Mr. Evans entered the service of the C. P. at North Bay, Ont., in 1919, as storekeeper and subsequently became chief clerk at Angus shops. He was appointed district storekeeper in 1946, serving successively at Toronto, Ont.; Montreal, and Winnipeg.

Mr. Galey was born in September 1885 and joined the C. P. as a storeman at McAdam Junction, N. B., in 1909. He subsequently served as foreman of the stores department and district storekeeper, becoming assistant to the general storekeeper in 1941 and general storekeeper in 1946.

Laurence W. Skillman has been appointed assistant purchasing agent of the JERSEY CENTRAL LINES at New York. Mr. Skillman formerly served in the same capacity in the New York office of the CONSOLIDATED RAILROADS OF CUBA.

Louis V. Schwartz, district storekeeper at the CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC's Milwaukee shops, has been appointed assistant general storekeeper, with headquarters at Milwaukee. Appointed to a similar post at that point is **Glen V. Ireland**, heretofore general foreman. **J. V. Anderson** becomes assistant general storekeeper at Tacoma, Wash., with jurisdiction over lines Mobridge, S. D., and west. The following have been appointed district storekeepers, with jurisdiction and headquarters as noted: **E. F. Grisius**, Middle district, except Tomah (Wis.) shops; **J. J. Roe**, Milwaukee shops and terminals, at Milwaukee; **R. K. Baker**, Southern dis-

**BOOSTS
EARNINGS
TOO!**



The Differential Air Dump Car has a way with operating expenses — cuts 'em down!

There's another pair of massive muscles on the other side of the car, too, means two-way dumping and greater flexibility.

They're built to take rough treatment — whether it's the slam-banging of the clam or the sudden dumping of tons of hot slag. These cars can take it and can come back faster for more.

Higher ratio of payload to dead weight! Fewer trips to the shop and shorter stays when they do go! Add all these up and it spells lower operating costs — another way to say "Boosted Earnings". Write for the full story on these cars.

↑
**DUMPS
BOTH
WAYS**
↓



Other Differential Products: Locomotives, Mine Cars, Mine Supply Cars, Rock Larries, Mantrip Cars, Dumping Devices and Complete Haulage Systems.

DIFFERENTIAL STEEL CAR COMPANY

FINDLAY, OHIO

SINCE 1915 — PIONEERS IN HAULAGE EQUIPMENT

trict, at Chicago; and **A. M. Lemay**, Northern district, except Aberdeen, S. D., at Minneapolis, Minn.

Mr. Schwartz entered Milwaukee service at Dubuque, Iowa, in December 1917. In January 1941 he was appointed division storekeeper at Savanna, Ill., and since June 1949 has served as district storekeeper at the Milwaukee shops.

Mr. Ireland started with the road at Miles City, Mont., in 1919. In 1929 he was transferred to Milwaukee in a supervisory capacity, and in February 1948 became general foreman of the road's new consolidated car and locomotive forge and fabrication shop.

ENGINEERING AND SIGNALING

As reported in *Railway Age* February 12, **A. C. Danks** has been appointed bridge engineer of the UNION at East Pittsburgh, Pa. Mr. Danks was born on August 6, 1908, at Wilkinsburg, Pa., and attended Carnegie Institute of Technology at night (B.S. in C.E. 1940). He entered railroad service on May 1, 1937, as assistant en-



A. C. Danks

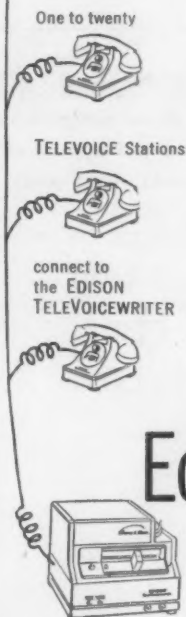
gineer in the valuation department of the Union, and on January 1, 1941, became draftsman in the maintenance of way department. He was promoted to structural engineer on March 16, 1944, chief draftsman on January 1, 1947, and resident engineer on May 16, 1950.

John Ayer, Jr., assistant chief engineer of the DENVER & RIO GRANDE WESTERN, has been promoted to chief engineer, with headquarters continuing at Denver, Colo. He succeeds **K. L. Moriarty**, who has been appointed assistant general manager, as announced elsewhere in this issue. Appointed to succeed Mr. Ayer is **H. C. Cosand**, who retains his duties as engineer of capital expenditures in addition to his new assignment.

J. C. Morrow has been appointed telephone engineer of the MISSOURI PACIFIC LINES, with headquarters at Houston, Tex.



The world's Smallest! Handiest!
Simplest! at $\frac{1}{3}$ the cost!



An Edison first, perfected after more than six years of proof on the firing line! Winning the most sensational acclaim in the history of instrument dictation! Easy to use as a telephone! Complete, remote control by push-buttons! "Delivers" dictation to EDISON TELEVOICewriter at *secretary's* desk. Cuts cost of instrument dictation as much as 66 $\frac{2}{3}$ %!

Edison TeleVoicewriter

The Televoice System

GET THE WHOLE STORY—NOW! Send for this new descriptive booklet. Or, to arrange for a demonstration, call "EDIPHONE" in your city. In Canada: Thomas A. Edison of Canada, Ltd., Toronto 1, Ontario.

Thomas A. Edison
INCORPORATED



EDISON, 27 Lakeside Ave., W. Orange, N. J.
Okay—send me a LINE ON TELEVOICE.

NAME _____

COMPANY _____

ADDRESS _____

CITY _____ ZONE _____ STATE _____

SPECIAL

A. E. Greco has been appointed manager of public relations of the **PULLMAN COMPANY**. Mr. Greco has been serving as assistant to vice-president—public relations, and editor of the company's employee magazine, the "Pullman News," since he joined Pullman in 1945. He will continue as editor



A. E. Greco

of the magazine. Before entering Pullman service, Mr. Greco was associated with the Youngstown Sheet & Tube Co., Youngstown, Ohio, doing public and industrial relations work, and prior

to that he was a newspaper man. He is president of the American Railway Magazine Editors Association.

OBITUARY

Robert C. Johnson, 74, who retired on July 1, 1945, as signal engineer of the **BOARD OF TRANSPORTATION OF THE CITY OF NEW YORK**, died on April 3 at his home in Elizabeth, N. J., after a long illness. Mr. Johnson served as signal engineer of the Virginian in 1905 and assistant signal engineer of the New York Central at New York from 1906 to 1913. He had been chairman of various committees of the Signal Section of the Association of American Railroads and was the author of papers on railway signaling, including a treatise on scientific location of automatic block signals for lines of heavy traffic, as published in *Railway Signaling* and in proceedings of the A.A.R.

T. W. Evans, who retired in October 1937 as vice-president of the **NEW YORK CENTRAL** at Chicago, died on March 25 in his 84th year.

Raymond C. Randall, operating vice-president of the **ERIE** at Cleveland, Ohio, died of a cerebral hemorrhage on April 8 at his home in Shaker Heights, Ohio. Mr. Randall was born at DeGraff, Ohio, on Sep-

tember 18, 1889, and joined the **Erie** on April 1, 1906, as a clerk at Marion, Ohio. He subsequently served as assistant yardmaster, yardmaster, general yardmaster, trainmaster, assistant divi-



Raymond C. Randall

sion superintendent, superintendent of terminals, division superintendent, assistant general manager and assistant to vice-president. In July 1941 he was appointed general manager at Jersey City, N. J., and in October 1948 he became vice-president—personnel. Mr. Randall was appointed vice-president for operations and maintenance in December 1949.

OPERATING REVENUES AND OPERATING EXPENSES OF CLASS I STEAM RAILWAYS

Compiled from 127 monthly reports of revenues and expenses representing 131 Class I steam railways

(Switching and Terminal Companies Not Included)

FOR THE MONTH OF JANUARY 1951 AND 1950

Item	United States		Eastern District		Southern District		Western District	
	1951	1950	1951	1950	1951	1950	1951	1950
Miles of road operated at close of month	226,068	226,652	53,317	53,380	45,959	46,147	126,792	127,125
Revenues:								
Freight	\$709,736,094	\$537,339,085	\$264,724,450	\$203,649,170	\$151,719,921	\$115,419,571	\$293,291,723	\$218,270,344
Passenger	78,158,286	69,725,278	40,150,848	37,458,451	12,869,361	11,583,418	25,138,077	20,683,409
Mail	19,295,073	17,480,242	7,314,463	6,347,420	3,306,498	3,126,698	8,674,112	8,006,124
Express	6,365,835	4,270,727	1,851,315	1,105,528	1,355,533	1,104,203	3,158,987	2,060,996
All other operating revenues	35,173,438	28,229,617	15,899,452	12,523,015	6,132,297	4,771,489	13,141,689	10,935,113
Railway operating revenues	848,728,726	657,044,949	329,940,528	261,083,584	175,383,610	136,005,379	343,404,588	259,955,986
Expenses:								
Maintenance of way and structures	106,964,612	90,856,744	38,818,858	31,984,117	24,964,954	20,969,023	43,180,800	37,903,604
Depreciation	11,091,610	10,756,308	4,588,804	4,501,251	2,051,808	1,911,502	4,450,998	4,343,555
Retirements	634,256	477,444	179,445	86,199	57,980	182,342	396,831	208,903
Deferred maintenance	*206,405	*45,748	*206,405	*7,359		*7,389		*31,000
Amortization of defense projects	153,140	161,334	13,379	25,978	37,886	46,362	101,875	88,994
Equalization	7,621,206	6,957,589	3,680,490	3,527,781	2,424,263	2,439,545	1,516,453	990,263
All other	87,670,805	72,549,817	30,563,145	23,850,267	20,393,017	16,396,661	36,714,643	32,302,889
Maintenance of equipment	158,077,461	131,426,481	67,105,618	53,585,429	30,904,349	25,872,663	60,067,494	51,968,389
Depreciation	25,339,000	24,033,989	9,137,606	8,924,884	5,713,997	5,417,695	10,487,397	9,691,410
Retirements	*57,034	*48,072	*18,436	*5,313	*19,999	*25,955	*18,599	*16,804
Deferred maintenance and major repairs	*2,059,169	*1,674,595	*2,040,265	*1,557,561	*1,904	*3,907	*17,000	*113,127
Amortization of defense projects	1,745,558	1,222,157	784,374	451,526	250,544	238,534	710,640	532,097
Equalization	48,876	*289,996	*9,018	26,900	301,494	273,597	*243,600	*590,493
All other	133,060,230	108,182,998	59,251,357	45,744,993	24,660,217	19,972,699	49,148,656	42,465,306
Traffic	17,115,546	15,839,307	5,669,312	5,387,694	3,598,398	3,397,479	7,847,836	7,054,134
Transportation—Rail line	327,410,434	276,543,747	140,036,900	116,606,129	60,092,774	50,994,753	127,280,760	108,942,865
Miscellaneous operations	10,522,368	9,415,400	3,799,197	3,535,493	1,641,839	1,486,330	5,081,332	4,393,577
General	25,155,852	22,578,852	9,593,200	8,650,804	5,428,731	4,848,374	10,133,921	9,079,674
Railway operating expenses ¹	645,246,273	546,660,531	265,023,085	219,749,666	126,631,045	107,568,622	253,592,143	219,342,243
Net revenue from railway operations	203,482,453	110,384,418	64,917,443	41,333,918	48,752,565	28,436,757	89,812,445	40,613,743
Railway tax accruals	109,414,627	64,077,602	31,825,380	22,098,925	28,201,346	14,962,578	49,387,901	27,016,099
Payroll taxes	23,156,913	20,557,026	9,660,992	8,331,851	4,452,213	3,899,031	9,043,708	8,326,144
Federal income taxes ²	57,151,910	16,834,467	11,576,165	3,950,720	17,400,261	5,498,231	28,175,484	7,385,516
All other taxes	29,105,804	26,686,109	10,588,223	9,816,354	6,348,872	5,565,316	12,168,709	11,304,439
Railway operating income	94,067,826	46,306,816	33,092,063	19,234,993	20,551,219	13,474,179	40,424,544	13,597,644
Equipment rents—Dr. balance	12,734,965	10,291,491	6,385,470	4,538,169	*485,574	*623,221	6,835,069	6,376,543
Joint facility rent—Dr. balance	3,641,951	3,219,320	1,774,204	1,551,433	574,796	511,841	1,292,951	1,156,046
Net railway operating income	77,690,910	32,796,005	24,932,389	13,145,391	20,461,997	13,585,559	32,296,524	6,065,055
Ratio of expenses to revenues (percent)	76.0	83.2	80.3	84.2	72.2	79.1	73.8	84.4

¹Includes income tax, surtax and excess profits tax.

²Decrease, deficit, or other reverse item.

³Includes accruals for additional wage payments of \$13,282,697.

Compiled by the Bureau of Transport Economics and Statistics, Interstate Commerce Commission. Subject to revision.

Norfolk and Western

RAILWAY COMPANY



SUMMARY OF ANNUAL REPORT FOR 1950

Business and earnings improved substantially over 1949 because of heavier movement of bituminous coal and merchandise freight; while passenger traffic continued to decline.

The portion of operating revenues consumed by operating expenses was reduced from 76.57 per cent to 69.29 per cent. Maintenance was adequate, and bad order freight cars were kept at less than 2 per cent of total ownership.

Taxes totaled \$35,101,000., an increase of \$13,231,000. or 60 per cent over 1949, and amounted to \$1,652 for each employee, \$6. for each share of Common Stock, and 21 cents for each dollar of operating revenues.

PROPERTY IMPROVEMENTS and EQUIPMENT

Expenditures for additions and improvements to fixed property totaled \$10,410,000., and for new equipment and equipment betterments \$12,865,000. A section of the main line, 5.28 miles long, was relocated on a lower grade and an old single track tunnel was replaced by a double track tunnel, at a total cost of \$13,000,000.

In the past 5 years, capital expenditures for improvements, modernization and equipment amounted to \$114,097,000., all of which were made from the Company's treasury. Uncompleted authorized improvements

and modernization at the beginning of 1951 involved capital expenditures of approximately \$21,369,000.

The equipment program for 1951 includes 3,000 new hopper coal cars, 1,000 box cars, 15 switching locomotives and 4 heavy road locomotives.

The Company, with others, is experimenting with two types of coal-burning turbine electric locomotives, which, if successful, will constitute a major advance in the development of more efficient and economical coal-burning motive power.

CONDENSED INCOME STATEMENT

	1950	COMPARISON WITH 1949	PER CENT
REVENUES AND OTHER INCOME:			
Freight—Coal	\$ 92,095,125	Inc. \$ 10,997,510	14
Other	62,890,231	Inc. 7,085,984	13
Passenger	4,769,810	Dec. 727,713	13
Mail, Express and Miscellaneous	8,241,274	Inc. 1,693,687	26
Total Railway Operating Revenues	\$167,996,440	Inc. \$ 19,049,468	13
Rent Income—Equipment and Joint Facilities—Net	12,573,511	Inc. 4,811,854	62
Other Income—Net	2,073,369	Inc. 97,953	5
Total	\$182,643,320	Inc. \$ 23,959,275	15
EXPENSES AND OTHER INCOME CHARGES:			
Way and Structures—Repairs and Maintenance	\$ 24,367,019	Inc. \$ 1,478,800	6
Equipment—Repairs and Maintenance	32,434,826	Inc. 589,475	2
Transportation—Operations	50,221,789	Inc. 557,753	1
Other Expenses	9,386,648	Dec. 259,601	3
Total Railway Operating Expenses	\$116,410,282	Inc. \$ 2,366,427	2
Taxes—Federal	\$28,116,823		
State, County and Local	6,984,159	Inc. 13,230,559	60
Interest on Funded Debt	1,823,577	Dec. 14,903	1
Total	\$153,334,841	Inc. \$ 15,582,083	11
NET INCOME	\$ 29,308,479	Inc. \$ 8,377,192	40
SINKING FUNDS AND MISCELLANEOUS APPROPRIATIONS	1,432,219	Dec. 605,676	30
BALANCE OF INCOME	\$ 27,876,260	Inc. \$ 8,982,868	48

It's Here at Last! A Diesel Book You Can Really Use **DIESEL-ELECTRIC LOCOMOTIVE HANDBOOK**

By **GEORGE F. McGOWAN**, Technical Consultant

SEND TODAY for this great new book! Packed with photos and diagrams, it brings you up-to-the-minute facts—the latest available on diesel-electric locomotives and equipment. Here is everything you need and want to know—written from the viewpoints of the men in the cab and the shop—by an experienced railroad man—all checked and approved by the leading locomotive builders.

For your convenience this handbook is sold separately in two volumes: *Mechanical Equipment* and *Electrical Equipment*. Read the descriptions that follow and you'll agree: Here is essential information you cannot afford to be without!

MECHANICAL EQUIPMENT

Everything necessary to complete understanding of diesel-electric locomotives is included—how diesel electric locomotives are constructed, the reasons behind their design, proper operating methods, things that can go wrong with them, "trouble-shooting," and effective servicing and maintenance.

GIVES YOU DETAILS OF EACH PART

Among the chapters are: The Development of the Diesel-Electric Locomotive; Fundamentals; Lubricating and Cooling; Fuel Systems—Fuel; Pistons, Piston Rings, Liners; Connecting Rods, Bearings, Crankshafts; Valves, Timing, Heads; Governors; The Steam Generator; The Air Compressor; and The Gas Turbine Locomotive.

DESCRIBES LOCOMOTIVES BY MAKE

Separate chapters are devoted to accounts of diesel engines made by The American Locomotive Company, Baldwin Locomotive Company, Electro-Motive Diesel, Fairbanks, Morse & Company, and Lima-Hamilton Corporation. Each engine, its parts, and its non-electrical auxiliaries are described and illustrated in full detail.

SOLVES JOB PROBLEMS FOR YOU

MECHANICAL EQUIPMENT provides you with the most modern information on diesel-electric locomotives and auxiliary equipment in clear, easy-to-understand language. If you have anything at all to do with operating, maintaining or servicing diesel-electric locomotives, you'll use

this book as a handbook to help you solve problems that you meet in your daily work, and as a reference to keep you on top of developments in this expanding field.

ELECTRICAL EQUIPMENT

You get full descriptions of all major pieces of electrical equipment and all their parts: how they are constructed, how to operate them, how to take care of them and how to fix them if they go wrong.

There are chapters on: The Electric Generator; The Traction Motor; Exciters, Auxiliary Generators, Motor Blowers, Dynamic Braking; Batteries; and Contactors.

DETAILS EQUIPMENT BY MAKE

The electrical and control equipment of the major builders: Alco-G.E., Electro-Motive Division, Lima-Westinghouse, Baldwin-Westinghouse, and Fairbanks, Morse-Westinghouse is completely analyzed in individual chapters.

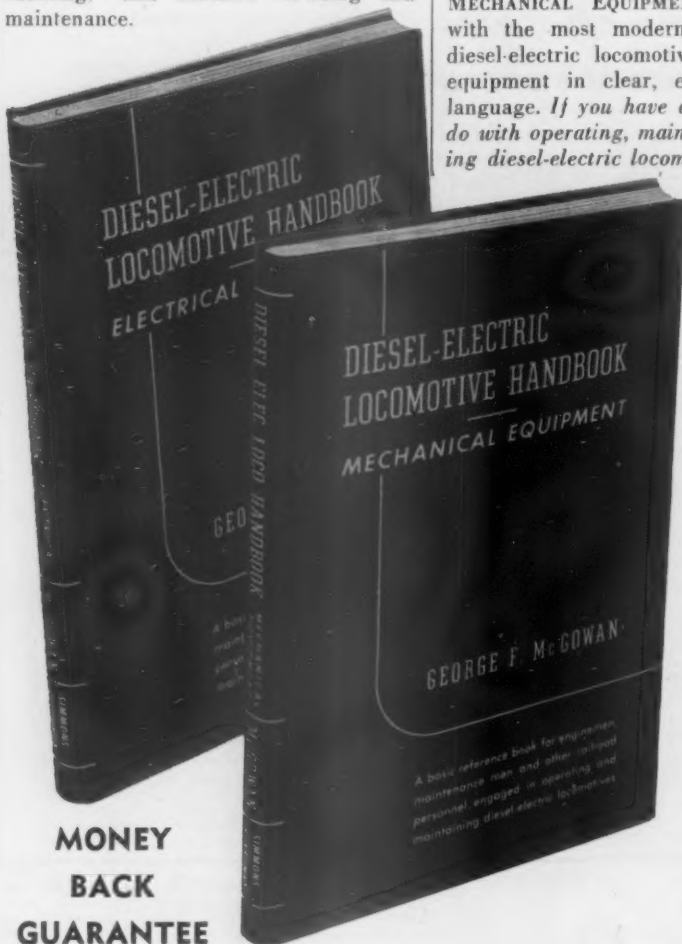
You need only a layman's knowledge of electricity to gain the utmost benefit from this book—because the subject is presented in practical language by an experienced railroad engineer.

ANALYZES ELECTRICAL SET-UP

You learn why the electrical transmission has been adapted to the diesel locomotive; its advantages, disadvantages, and limitations. You get a review of electrical fundamentals; definitions of terms and explanations of how to use the most common electrical formulas. Schematic wiring diagrams are explained and their special symbols identified.

EXPLAINS OPERATION, SERVICING, MAINTENANCE

Yes, here is your opportunity to gain a complete understanding of the electrical equipment of today's diesel-electric locomotives, to learn how to handle, service and maintain the equipment.



**MONEY
BACK
GUARANTEE**

GUARANTEED ORDER FORM

Simmons-Boardman Books
30 Church St., New York 7, N. Y.

Enclosed find for the book(s) checked below. I understand that you will ship them to me postpaid, and that if I am not completely satisfied I may return them any time within 10 days of receipt for a full refund of my money.

☐ **MECHANICAL
EQUIPMENT, \$4.95**

☐ **ELECTRICAL
EQUIPMENT, \$4.95**

COMBINATION OFFER—SAVE MONEY

☐ Both volumes above, only \$9.45

Name
Street
City State

4-16-51

CLASSIFIED DEPARTMENT

RAILROAD EQUIPMENT—FOR SALE

STANDARD GAUGE FREIGHT CARS

Box, Single Sheathed, 40 & 50-Ton
Flats, 50 and 70-Ton
Gondolas, Composite, 50 & 70-Ton
Gondolas, Composite, 50-Ton, Low Side, Drop End
Hoppers, Covered, All-Steel, 50 & 70-Ton
Hoppers, Twin, All-Steel, 50-Ton, Cross Dump

Hoppers, Triple, All-Steel, 70-Ton, Cross Dump
Ore Hopper, All-Steel, 50-Ton, Center Dump
Stock, 40-Ton, Single Deck
Tank, 10,000-Gallon, Class III
Tank, 8,000-Gallon, Class II

EXTRA LONG FLAT CARS 40- & 50-Ton Capacity, Length 70' to 74'

STANDARD GAUGE DUMP CARS

End Dump, 10-Yd., 30-Ton, Lift Door
End Dump, 20-Yd., 50-Ton, Drop Door
Side Dump, 16-Yd., 40-Ton, Lift Door

Side Dump, 20-Yd., 40-Ton, Lift Door

Side Dump, 30-Yd., 50-Ton, Lift Door

STANDARD GAUGE LOCOMOTIVES

Gasoline—10-Ton to 25-Ton
Diesel-Mechanical—8-Ton to 30-Ton

Gasoline-Electric—35-Ton
Propane-Electric—70-Ton

One 50-Ton, H. K. Porter, Type 0-4-0, Oil-Fired, Steam, Built 1942

PASSENGER EQUIPMENT

All types of Passenger & Baggage Equipment, including Self-Propelled!

4 ALL-STEEL DINING CARS, AIR-CONDITIONED

Send us your inquiries
We Buy Freight Cars for Dismantling
Send us your offerings

REPAIR PARTS

For
All Types of
Freight Cars

IRON & STEEL PRODUCTS, INC.

GENERAL OFFICE
13486 S. Brainard Ave., Chicago 33, Illinois
Phone: BAYport 1-3456

NEW YORK OFFICE
50-c Church St., New York 7, N. Y.
Phone: BEekman 3-8230

"ANYTHING" containing IRON or STEEL

STORAGE TANKS

6,000 Gallon
8,000 Gallon
10,000 Gallon

SHORT LINE RAILROAD WANTED

Interested in purchase or lease—industrial trackage; short line (serving several towns); remainder of an interurban system.

Address Box 576, RAILWAY AGE, 30 Church St., New York 7, N. Y.

DESIGNER

Nationally known manufacturer of railroad parts and equipment has an opening for a mechanical engineer or equivalent. Knowledge of railroad truck construction and design. Shop practice desirable, prior machine design experience helpful. Give complete details of your past experience. Box 585, Railway Age, 30 Church St., New York 7, N. Y.

RAILWAY SUPPLY COMPANY

with long and successful experience and wide acquaintance among railroad officials in all departments on United States and Canadian railroads desires additional items to sell on a national or sectional basis.

Address Box 586,
RAILWAY AGE
New York 7, N. Y.

Retired Operating Officer available specialized service. Actual experience before Presidential Emergency Board. Complete railroad study and Company Arbitrator. Address Box 573, RAILWAY AGE, 30 Church St., New York 7, N. Y.

FOR SALE SPIKES

166 Kegs New $\frac{3}{8}$ " x $6\frac{1}{4}$ "
In stock for immediate shipment. Also Tie Plates & Rails, All sections.

M. K. FRANK
480 Lexington Ave. Park Building
New York 17, N. Y. Pittsburgh, Pa.

WANTED

Harbor and Port Engineer. Beginning salary \$5306 per annum advancing to \$5906 per annum. Applicants must have 8 years of engineering experience including 5 years of harbor work. Maximum age 50. Write City Service Commission, City Hall, Milwaukee, for announcement and application.

Educational Services for RAILROAD MEN

Our New Service
on
Diesel Locomotive
Operation
is highly recommended
for
Engineers and Firemen

The Railway
Educational Bureau
Omaha 2, Nebraska

HYMAN-MICHAELS COMPANY

Relaying Rails ★★★ Dismantling

Used railroad equipment—cars—locomotives
Freight Car Replacement Parts

Complete stocks of guaranteed used freight car parts carried on hand by us at all times. Located conveniently for shipment to any part of the country. Write—Phone—Car or Track Dismantling, or Car Parts.

Main Office
122 SOUTH MICHIGAN AVENUE
CHICAGO, ILLINOIS

Branches
Wire—when interested in used Rails, Equipment, Cars,
St. Louis Los Angeles Havana, Cuba
New York San Francisco Houston
SERVICE QUALITY RELIABILITY

LOOKING FOR A JOB?

Use the "POSITION WANTED" column of
the Classified Department to your advantage.

Write To:

GET TOGETHER DEPT., RAILWAY AGE
30 Church St. • New York 7, N. Y.

Advertisers

IN THIS ISSUE

A		F		O	
American Car and Foundry Company	80, 81	Frank, M. K.	89	Okonite Company, The	26
American Hair and Felt Company ..	10	Franklin Railway Supply Company	83		
American Locomotive Company ..	56, 57			P	
American Steel Foundries	19			Pressed Steel Car Co., Inc.	17
Armco Steel Corporation	14			Pullman-Standard Car Manufacturing Company	22, 23
		G			
B		General Electric Company	55, 56, 57	R	
Bendix Aviation Corporation, Radio Division	76	General Railway Signal Company	Back Cover	Railway Educational Bureau, The ..	89
Bethlehem Steel Company	3	General Steel Castings	2	Republic Steel Corporation	25
Bowser, Inc.	70	Graham Tie Dowel Service Co.	74	Russell, Burdsall & Ward Bolt and Nut Company	16
		Graybar Electric Company, Inc.	75	Rust-Oleum Corporation	18
		Great Lakes Steel Corporation	24	Ryerson & Son, Inc., Joseph T.	90
		H		S	
C		Harrison Radiator Division, General Motors Corporation	67	Scullin Steel Co.	63
Classified Department	89	Hough Co., The Frank G.	78	Simmons-Boardman Publishing Company	88
Combustion Engineering—Superheater, Inc.	65	Hyman-Michaels Company	89	SKF Industries, Inc.	12
Crane Co.	82			Standard Oil Company (Indiana) ..	21
Crossett Lumber Company	11	I		Standard Railway Equipment Manufacturing Company	15
Cummins Engine Company, Inc.	13	Inland Steel Co.	20	Superheater, Inc.—Combustion Engineering	65
		Iron & Steel Products, Inc.	89		
		K		U	
D		Kerite Company, The	91	Union Switch & Signal Company	6
Dednox Incorporated	72			W	
Differential Steel Car Company	84	N		Waugh Equipment Company	58
		National Malleable and Steel Castings Company	8, 9	Western Railroad Supply Company	62
E		National Steel Corporation	24	Westinghouse Air Brake Co.	4
Eastman Kodak Company	79	New York Central System	60	Wine Railway Appliance Co., The	Front Cover
Edison Incorporated, Thomas A. ...	85	Norfolk and Western Railway Company	87		
Electro-Motive Division, General Motors Corporation	68, 69				

STEEL in stock at
RYERSON

Thousands of kinds, shapes and sizes of steel are ready for quick shipment from Ryerson to any shop along your line. Call Joseph T. Ryerson & Son, Inc. Plants: Chicago, Milwaukee, St. Louis, Cincinnati, Detroit, Cleveland, Buffalo, Boston, Philadelphia, Jersey City, Pittsburgh, Los Angeles, San Francisco.

BARS—carbon & alloy, hot rolled & cold finished
STRUCTURALS—channels, angles, beams, etc.

PLATES—sheared & U. M., Inland & Way Floor Plate
SHEETS—hot & cold rolled, many types and coatings

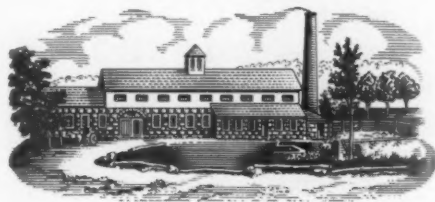
TUBING—boiler & mechanical, seamless & welded
STAINLESS—Alloy plates, sheets, bars, tubes



Time

Time is the measure of all things.

Few of man's inventions can stand its merciless judgment. Yet Kerite for over 90 years has thrived and spread and gained renown. Time, indeed, gives Kerite its unqualified recommendation.



THE KERITE COMPANY

NEW YORK CHICAGO SAN FRANCISCO GLENDALE 4, CALIF.

Kerite Insulation—Your Cable's Best Life Insurance



G·R·S NX (eNtrance - eXit)

INTERLOCKING

gives you

EASIER TRAIN ROUTING

Two fingertip moves
to set up a route



EASIER MAINTENANCE

Plug-in relays
to aid testing

- You can extend control limits of your present interlockings, and handle the additional work with ease.
- You can lower maintenance costs by the use of modern plug-in relays for electric locking and control.

*Your G-R-S district office will furnish you
data for studies and estimates.*



GENERAL RAILWAY SIGNAL COMPANY

New York 17 Chicago 3 ROCHESTER 2, N.Y. St. Louis 1 A 2510



1. AT
— fre
tapere
hours
Lubric
2. IN
more c
they're
in repa
not di
3. IN
repair
draft g
from
in ted
4. ON
tially